ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF
THE ILLINOIS STATE MEDICAL SOCIETY

ENTERED AT THE SPRINGFIELD POSTOFFICE AS SECOND-CLASS MATTER

VOL. XX SPRINGFIELD, ILL., AUGUST, 1911 NO. 2

ORIGINAL ARTICLES

THE ANTE-MORTEM AND POST-MORTEM EXAMINATIONS OF THE CRIMINAL, JOHN JUNKINS *

REPORT OF THE IOWA STATE BOARD OF HEALTH

H. J. H. HOEVE, M.D.
Professor of Anatomy in Drake University
DES MOINES

That man thinks, feels, desires and acts according to the anatomical construction and physiologic development of his brain was even in olden times (Erasistratus) a conviction, and I therefore need offer no excuse for having been desirous of examining the entire body of John Junkins, whose most atrocious crime was marked by a degree of brutality and destructiveness seldom encountered in average criminals. Having studied Junkins during his trial, I was convinced more than ever that a normal healthy human being could not do the things he had done, and therefore concluded that he was diseased or defective. Disregarding some findings of tertiary syphilis, my attention was attracted by the disproportion between the different parts of his body[1] as exhibited by the enormous mandible, the beef-like neck, the long upper extremities on which the hands were fitted like the blade of a spade, and the big feet, which factors certainly did not speak against the possibility of the presence of an atypically constructed brain, and I therefore had no hesitation in pronouncing him a born criminal. Judging from a close examination of his personal history, it is plain that he was also a criminal from environment and by education and I felt positive that by a close study of his brain I could settle the question as far as my own mind was concerned whether the brains of non-diseased criminals exhibit a deviation from the normal type.

* Read before the Chicago Medical Society (by request), May 31, 1911.

1. De Giovanni, A.: The Morphology of the Human Body; translated from the Italian edition by J. J. Eyre.

I wish to extend my appreciation to Judge J. C. Mitchel and Judge F. M. Hunter, both of Ottumwa; to Dr. G. H. Sumner, secretary of the State Board of Health, and to Attorneys J. Price of Albia and S. Cornell, for their valuable advice and assistance wherever this was possible, and also to Mrs. A. Junkins for permitting what few mothers would permit: the anatomical examination of the body. I desire to thank my former assistants, Mr. R. Smith, Mr. W. Betts and Mr. B. Yates, for their valuable assistance and especially for their faithfulness, their accuracy and their painstaking labor during many long evening hours in connection with the examination of the body, the making of casts, photographs, drawings, lantern slides, etc.

Family History of Junkins.—His father had no education, used alcoholics and died of delirium tremens in the detention hospital. All relatives on his father's side drank. His mother had a fair education and seemed to have the best mental equipment of them all, although one of her brothers was sent to the penitentiary for five years, and as I understand it another brother was sent to jail for a holdup. One of her sisters had disease of the thyroid gland. There are no cases of insanity on either side of the family.

Personal History; Early Life.—Junkins was born in the part of Ottumwa known as Smoky Row, Aug. 6, 1886, and as I have learned from men who knew him at that time, he had nobody to look after him when he was a little boy. He was frequently compelled to live on whatever he could find by himself; in other words, when very young he was a tincan tramp of necessity.

Habitat.—According to what I am told, Smoky Row, the place where he received his early education, was at that time and even up to a few years ago worse than the anteportals of hell. It goes without saying that the following incident as remitted by one of our university students might be true, namely, that Junkins when a little boy, while playing with some other boys, kindled a fire in an old tree-stump and his own little white dog being around and not behaving exactly to please him, was seized by him and thrown bodily into the fire.

Habits.—He became addicted early to alcoholics and by those who knew him at the time it is stated that he would steal for a friend and that he never went back on a pal.

Surroundings.—As was to be expected, the boy of poorly equipped parentage, of criminal education and brought up in criminal surroundings which the state permitted to exist in Smoky Row, made the acquaintance with the Eldora Reform School (1892) at the early age of nine years, being committed of robbing McCarroll's hardware store in Ottumwa. He stayed there six and a half years and then made his escape. Now being a lad of about sixteen years of age, he was permitted to roam around the country and as could be expected acquired all the vices which were new to him. According to his own statements, he smoked opium with the Chinese and used snuff between his teeth and lips when among the Swedes in addition to smoking, chewing and drinking, not to say anything about his abnormal indulgence in venery.

First Crime.—It seems that the Eldora term did some good, for we do not find him coming in conflict with the law until April 12, 1905, when he was sent at the age of 19 to the Fort Madison Penitentiary for five years by Judge Robert Sloan of Wapello County, after being convicted for the first time in his life for robbing a woman, Mrs. Lena Stebb. According to his own statement, he never did any work and was loafing all the time. According to the statistical prison record, of which I received a copy through the kindness of Warden Sanders and Deputy Stevenson, his term expired by commutation on Jan. 11, 1909. During this imprisonment he was punished at five different times for insolence and bad behavior in his cell, but at no time was he reported for any violent act incident to personal injury.

Last Crime.—Only twenty-four days (Feb. 5, 1909) after being released from prison, this same man committed a most brutal murder on a woman, Miss Clara Rosen, with the possible object of robbery and rape, for which he was sent to prison June 2, 1909, in order to pay the penalty for his crime (hanging) on July 29, 1910, which was administered as scheduled. Deputy A. E. Stevenson writes that his behavior during his final imprisonment was of necessity not troublesome, as he was continuously in solitary confinement.

Examination of Junkins During His Last Trial at Centerville, May 25, 1909.—(Only those factors are recorded here which seem of practical importance.) Race, negro, with more or less admixture of white blood. Age, 26 years. Temperament, motive, vital (for a scientific interpretation of temperaments see note 1). Family history, see page ..... Personal history, see page ..... Habits, bad, drinks, swears, chews, smokes, uses all kinds of stimulants he can get hold of and as many cigarets as he has money for. Previous diseases, contracted gonorrhea six years ago and also syphilis; claims to have received an injury over the left parietal eminence.

Present Condition.—Height, 5 feet 8 inches. Weight, 158 pounds. A slightly scaphocephalic head. A larger facial than anterior cranial development.[2, 3] Transverse ridges on the upper two medial incisor teeth. A deep palatal arch. Irregular movement of left eye to right, possibly due to a muscular insufficiency of the left external rectus. Pulls mouth to left side during talking. Physiognomy expresses carelessness, laziness and sensuality. Handwriting, not forceful as you would expect, but overstimulated. Walk, indifferent shuffling gait, swinging arms. Hearing, normal. Smell, decreased. Articulation, of negro. Voice, of negro. No marks on the body, except a few tertiary syphilitic scars on the lower extremities and a few small scars of cuts on the fingers. Muscular system, well developed. A small external oblique inguinal hernia on the right side. Is hyperesthetic everywhere, possibly due to overstimulation. Length of arms, 2 inches longer than average in proportion to body.[1] Length of fingers, long. Length of feet, 12½ inches.

2. Winkler, C., and van der Platts, J. D.: Geneeskundige Bladen 5-6, 1895.
3. Berends, A. G.: Eenige schedelmaten van Recruten en Moordanaars Geneeswundige Bladen, 1896.

Claims to have talent for playing pool. Taste, seems altered. Patellar reflex, right exaggerated. Intensity and duration of attention, good. Quality of brain, necessarily low.

Measurements of the Head.—No scars or marks of any kind. Scalp freely movable everywhere.

	Of Head During Life (inches)	Of Skull (inches)
Circumference	23	21 1/4
Occipito-frontal	16	13 1/4
Inferior frontal	12 1/2	11 1/2
To processus zygomaticus ossis frontalis	3 1/2	3 1/4
Mid frontal	12 1/2	11 1/2
Superior frontal	12 3/4	11 1/4
Posterior frontal	14	11 3/4
To tuber frontale	4 3/4	4 1/4
Anterior parietal	14	12
Posterior parietal	14	11 3/4
Occipital	12 1/4	9 1/2
Cerebellar	10	8 1/4
DIAMETERS		
Longitudinal	7 1/4	7
Inferior frontal	3 5/8	3 3/4
Superior frontal	4	4 1/5
Mid temporal	5 5/8	5 1/4
Posterior temporal	5 1/4	5 1/8
Biparietal	5 3/4	4 3/4

Inspection of the Body After Death and Removal of the Brain, June 30, 1910.—The body was received June 30, 1910, and identified in the presence of the following gentlemen: Officer T. M. Frace, Dr. B. Pherrin, my former senior assistant Mr. W. Jackson, my present senior assistant Mr. R. W. Smith, and my junior assistant Mr. W. H. Betts, and the brain removed and placed in solution in their presence. It was noted at the time that the scalp was very thick and that the pericranium was closely adherent to the flat bones of the skull, that the latter was about one inch thick at the inion and that there were no pathologic lesions to be found within the cranium. The entire body was inspected closely, but nothing added to the antemortem findings and the measurements of the head were reviewed carefully. The body was embalmed with special care and made ready for dissection.

Dissection of the Body.—Whereas, Lombroso states that anomalies are most frequent in male criminals, I was naturally much interested in the number and kind of anomalies found during a careful dissection of the body and from the following list it can be seen that they surpass the average greatly. Guerra states that he found fourteen anomalies of arteries in eighteen criminals, against four in twelve normals.

Head and Neck: No anomalies were noted here, except well-marked tendinous intersections in the depressors of the os hyoideum. The muscles and the fascia colli of the posterior part of the neck were enormously developed. The cervical portion of the vertebral column was not broken at any place and the ligaments of the atlas and axis were all intact, as was also the odontoid process of the latter. The skull was removed and prepared for future study.

Right Upper Extremity: 1. No cephalic vein. 2. The median nerve formed a distinct connection with the musculo-cutaneous nerve. 3. No superficial radial vein. 4. The brachial artery divided at the upper one-third of the arm. 5. The superficial palmar arch was not complete. 6. The origin of the musc. extensor ossis metacarpi pollicis was from

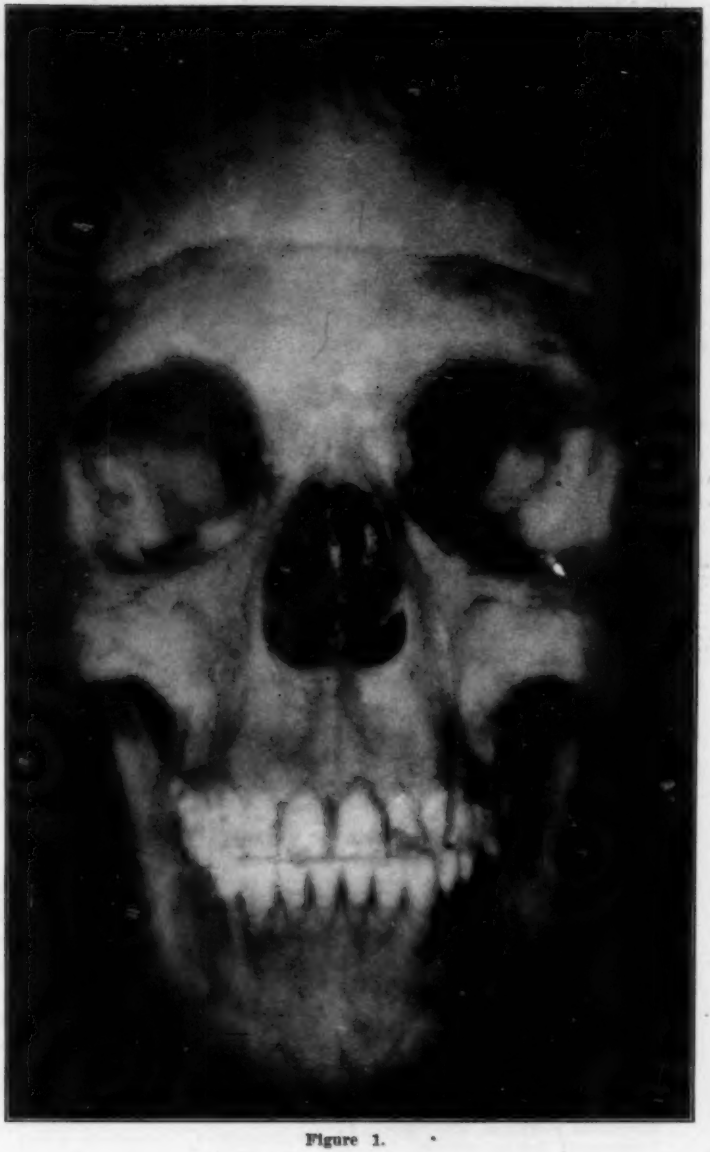

Figure 1.

the upper half of the outer surface of the radius. 7. The musc. extensor indicis gave a well-developed slip to the middle finger.

The Left Upper Extremity: 1. No superficial median vein. 2. The internal cutaneous nerve divided in the axillary region and formed a distinct loop through which passed the axillary vein. Its lower portion formed a nerve 2 inches in length which divided into an anterior and a posterior branch. 3. The musc. extensor indicis gave off a slip to the middle finger. 4. The superficial palmar arch was complete but was located about ¼ inch too far proximal.

The Lower Extremities: The same on both sides. 1. The musc. flexor longus digitorum had three tendons of insertion instead of four. 2. No external malleolar branch of the anterior tibial artery, but a branch from the anterior peroneal took its place. 3. The musc. peroneus tertius had two tendons for insertion instead of one. 4. The left deep external pudic vein passed partly into the common femoral vein and partly through the inguinal canal into the external iliac vein.

The Thorax: 1. A bilateral musc. sternalis brutorum.

The Belly: 1. An embryonal type of omentum majus. 2. A V-shaped transverse colon on account of it being pulled downward by the right border of the omentum majus, which formed the contents of the small external oblique inguinal hernia on the right side and was anchored there. 3. A very large cecum. 4. The appendix 3½ inches long, curved on itself and hanging downward into the pelvis. 5. The ascending portion of the duodenum was exposed. 6. A very large thick musc. suspensorius duodeni. 7. A large retroduodenal fossa. 8. A sigmoid flexure only 2 inches in length. 9. A right inferior accessory renal artery. 10. The cystic and hepatic bile ducts remained separate until ¾ inch from the papilla of Vater. 11. Left renal artery enters hilum of kidney anterior to renal vein. 12. No spermatic artery on either side.

The Skull: I shall now name the most common anomalies found in the skulls of male criminals in the order of their frequency and will mark the ones found in Junkins with a capital J.

	Per Cent.		Per Cent.
Large sinus frontales	62	J.	
Wormian bones	59	In female homicides	76
Very large parietal and temporal eminences	43	J.	
Plagiocephaly	42	In normal cases	17.2
		In delinquents	28.8
		Among homicides	44
		Among prostitutes	22
Very large mandible	37	J.	
Total or partial absence of sutures	37	J.	
Receding or narrow forehead	36	J.	
Prominent (prognathous) jaw	34		
Cranial sclerosis	31	J.	
Prominent cheekbones	30	J.	
Deep canine cavities	21	J.	
Anomalous teeth	14		
Enormous pterygoid apophysis	12		
Presence of frontal suture	12		
Irregular foramen occipitale magnum	10		
Epipteric bones		J.	

We can readily see the significance of these anomalies, even though the narrow forehead and the prominent cheekbones are looked upon as racial characteristics (it still leaves seven anomalies out of sixteen examined for), if it is remembered that Kurella,[4] while examining 830 skulls of criminals guilty of serious offences, found that 77 per cent. showed more than three anomalies and that 43 per cent. showed more than five anomalies. Ferri[5] states that anomalies are frequent in female criminals but that they are three or four times more frequent in male criminals. Prostitutes, 5.5; thieves, 4.2; homicides, 4.1; infanticides, 4.0.

Total weight of the skull, 1,067 gm. Weight of the mandible, 157 gm. cranial capacity, 1,416 c.c. Cephalic index, 77, mesaticephalic. Height index, 70, orthocephalic. Facial index, 95, leptoprosopic. Orbital index, 85, mesoseme. Gnatic index, 100, mesognathic. Palatal index, 71.

The thickness of the skull was a little above the average, especially at the inion, where it was about one inch thick. The parietal bones were also thick, especially at their medial borders, and no trace was left of the sutura interfrontalis and the sutura sagittalis. Close inspection of the parietal bones in this case disclosed the possibility of their development from four centers, one for each of the parietal eminences, one in the anterior part of the sutura sagittalis one inch posterior to the center of the sutura coronalis, and a fourth one in the sutura sagittalis a half inch anterior to the center of the sutura lambdoidea. The following points speak for the possibility of this condition: 1. Absolutely no trace of the sutura sagittalis existed. 2. Absolutely no trace of the foramen parietale existed. 3. The bone is thickest near the median line, especially near the lambda. 4. The osseous radiations can be seen to extend from the last two centers mentioned. The ossification of the sutura coronalis was much farther advanced than that of the sutura lambdoidea, especially internally, and even the sutura squamo-parietale was fairly well ossified. The impressions (*foveola granularis Pacchioni*) caused by the Pacchionian bodies were normal in number, but were most marked near the bregma and the lambda. The nasal bones were very small and the left was about twice the size of the right. Plagiocephaly was not marked and the processus retromastoideus of Waldeyer was present on the left side and gave attachment to the musc. obliquus capitis superior.[11] Scaphocephaly was fairly well marked. The groove for the posterior end of the sinus sagittalis superior passed distinctly into the groove for the sinus lateralis dexter and the sulcus sigmoideus ossis temporalis came farthest forward on the right side.[6] Depressions for the gyri of the lobus frontalis were most numerous on the left orbital plate. This cranium is one of the heaviest in my collection as can readily be seen by comparing its weight with that of Chester Tyler's skull, 782 gm., the murderer of Dr. Failer of Newton, and that of Billy Arholt, 910 gm., a Chicago holdup man. This enormous weight is partly explained by

4. Byrnes (Inspector): Professional Criminals of America.
5. Ferri, E.: Criminal Sociology.
6. Hoeve, H. J. H.: The Pars Sigmoidalis Sinus Lateralis and Its Relation to the Processus Mastoideus, Laryngoscope, November, 1909.

the coarseness of the bones of the rest of the body and even the weight of the occipital region can be explained by the development of ridges and tubercles for the attachment of the powerful muscles of the back of the neck, but the thickness of the parietal bones and the weight of the mandible is remarkable. I have seen thick parietal bones in many instances and may say that ordinarily at the age of 38 or later the upper half of these bones increases in thickness. At this time the shape of the cranial cavity is altered but the shape of the exterior is not. The diploe of these bones is increased at this time and their external table is much thinner than that of the os frontale.

Junkins had a large cranial capacity for a negro, but 104 c.c. smaller than that of a white athlete (1,520 c.c.) of his build and size, whose skull is also in my collection. When compared with the cranial capacity of Chester Tyler, 1,353 c.c., he excells by 63 c.c. The main average capacity for white males is given by Welcker,[7] as 1,450 c.c., a maximum capacity of 1,790 c.c., and a minimum capacity of 1,220 c.c. Junkins' cranial capacity remains within the limits of the average given for skulls of negroes and Chinese, 1,350 c.c. to 1,450 c.c. The cephalic index shows the probability of an admixture of white blood, as it usually is found to vary between 75 and 80 (*mesaticephalic*) in Europeans and Chinese, and as it is mostly found to be below 75 (*dolechocephalic*) in the native Africans. The orbital index also suggests white blood admixture, as it should have been below 84 (*microseme*), which is usual in negroes. The gnatic index is not quite high enough, as in the Chinese and Japanese it is mostly between 98 and 103 (*mesognathous*), whereas in negroes it is mostly above 103 (*prognathous*).

The thickness of the skull when not pathologic is of no special importance, as all kinds of variations are found in this respect and I mostly expect a man with heavy bones to have a thicker skull than one with light bones, but the fusion of the two parietal bones in the sagittal line of the skull or their development from four centers, as the case may be, certainly has some special bearing. Even if the sutura sagittalis was present at a certain time I regard the ossification of this portion of the cranium to the extent which was found here as having taken place entirely too early. Ordinarily the ossification of the sutures commences, as in the long bones, at the ends of the suture last ossified near the fontanels and occurs first in the sutura sagittalis on the inside of the cranium at about the thirteenth year. The process has usually commenced on the outside at the age of 40 years, but at this time the sutures on the inside should still be distinct. At the age of 60, ossification can be expected to be complete on the inside and on the outside at the age of 80. There seems to be no special call for the enormous deposit of bone in the medial part of the vault of the skull as shown in this case. We have here a scaphoid condition which is present in many dolichocephalic skulls and which causes the gyri of the brain to develop mainly in an antero-posterior direction. It is well known that this holds true especially for dolicho-

7. Welcker, H.: Untersuchungen über Wachstum und Bau des Menschlichen Schädels, Leipsic, 1862.

cephalic skulls, and as shown by Calori,[8] Meyer,[9] Meynert[10] and Rudinger,[11] the gyri type of the brain changes; here we find clear-cut sagittal gyri and transverse and oblique gyri which have increased their obliquity. This is a great contrast from the type of gyri found in the brain of brachycephalic skulls, where the sagittal gyri develop numerous lateral extensions and where the transverse and oblique gyri obtain a much more transverse direction, complaining, as it were, to the eye of being prevented by pressure from growing forward and backward. In brachycephalics I have frequently found the gyri type of brachycephalics in cases of early ossification of the sutura coronalis and the sutura lambdoidea and in dolichocephalics the gyri type of dolichocephalics in cases of too early ossification of the sutura sagittalis, and in Junkins' case we

Figure 2.

have the gyri type of a dolichocephalic, caused by an early obliteration of the sutura sagittalis or an irregularity in the embryonal development of the parietal bones, in a mesaticephalic.

I wish to state distinctly that many similar cases can be recognized in young individuals after the sixteenth year, and whereas there is no doubt but what conditions of this kind have a restricting influence on

8. Calori, L.: Del cervello nei due tipi brachicefalo e dolicocefalo italiani Memorie dell'accad. delle sc. di Bologna, 2 ser. T. X. Fasc. 1, 1871.

9. Meyer, L.: Ueber den Einfluss der Schädelform auf die Richtung der Grosshirnwindung, Med. Centralbl., 1876, No. 43.

10. Meynert: Vorlaufige Mittheilungen über die Ursachen des Zustandekommens der Grosshirnwindungen, Anzeiger d. Gesellsch. d. Wiener Aertze, 1876, No. 29.

11. Rudinger: Vorlaufige Mittheilungen über die Unterchiede der Grosshirnwindungen nach dem Geschlecht beim Foetus und Neugeborenen, München, 1877.

the development of the gyri, I would recommend linear craniotomy, unilateral or bilateral as can be determined by measurements, comparing both sides of the skull.[46] In Junkins' skull even the sutura squamo-parietalis is fairly well ossified and that is supposed to be the last suture in the cranium to ossify under normal conditions.

Professor Waldeyer[12] of Berlin found a processus retromastoideus in only thirty-six out of 350 Africans, and in this case it seems that Le Double's[13] explanation of the occurrence of this tubercle is correct, namely, that it is caused by a strongly developed musculature of the neck, as the other eminences giving attachment to the musc. capitis posticus major and the musc. capitis posticus minor were also larger than the average and gave a solid attachment to the enormously developed muscles. To what extent the musculature of the back part of the neck was developed can be judged by comparing the cerebellar measurement during life and of the skull.

The mandible is heavy compared with other mandibles, as for instance Chester Tyler's, 116 gm., and Billy Arholt's, 83 gm. These weights correspond fairly well to the statement of Manouvrier, who gives the weight of the average Parisian criminal jaw as 80 gm., and that of murderers as 94 gm., showing that the mandibles of murderers are heavier. De Bierre gives the average weight of the normal mandible as 69 gm. and that of criminals as 95 gm., and it seems to me that the statement that abnormally heavy jaws in criminals are mostly found in those inclined to deeds of violence is correct.

The Examination of the Brain and Its Membranes.—Total weight, 1,438 gm. Weight of arachnoid, pia and vessels, 20 gm. Weight of midbrain, cerebellum, pons and medulla (section at upper level of midbrain), 195 gm. The weight of the separate halves was not reliable as the section passed to the left of the median line. The arachnoid and pia were not abnormal at any place and showed no special thickened areas.

The Vessels.—The left internal carotid artery was one-third larger than the right. The antero-inferior cerebellar artery was absent on the left side but very large on the right side. The left superior cerebellar artery supplied the internal one-third of the superior surface of the left cerebellar hemisphere, whereas the right supplied the internal one-half of the upper surface of the right cerebellar hemisphere. The left posterior cerebellar artery supplied the posterior one-half instead of the posterior three-quarters of the basilar surface of the lobus temporalis and the right supplied the posterior two-thirds of the corresponding surface on that side. The left posterior choroid artery was much smaller than the right. The left anterior and posterior temporal branches of the posterior cerebral artery were much smaller than the corresponding branches of the right side. The left anterior cerebral artery was much better developed than the right. The left great anastomotic vein of Trolard was much

12. Waldeyer, W.: Der Processus retromastoideus, Abh. der Konigl. Preuss. Akademie d. Wissenschaften, Berlin, 1909.
13. Le Double, A. F., and Dubreuil-Chambardel, L.: Note sur le Processus retromastoideus, Compt. rend. de l'Anatomistes, Septième Réunion et premier Congrès fédératif international d'Anatomie, Genève 6-10 Aout, 1905.

larger than the right but received fewer tributaries, and the same condition was found in connection with the posterior anastomotic vein of Labbe. The Vv. cerebri superiores were five in number on the left and four on the right side. They were much larger on the left side and especially well marked posteriorly.

The brain of Junkins falls within the limits of medium-sized macrocephalic brains, which includes all male brains weighing from 1,450 to 1,250 gm. The weight of the pia and its vessels should be about 45 gm., according to Broca,[14] between the twentieth and thirtieth year, and was much less in Junkins.

Junkins was right-handed, so that the left internal carotid artery being one-third larger than its fellow of the opposite side may be looked upon as normal, but what seems most peculiar is that all the other arteries of the left side, with the exception of the anterior cerebral, supplied less territory than their fellows of the opposite side and the actual blood supply of the left temporal lobe and the left cerebellar hemisphere was much less than that of the right. With the larger veins it seems just the opposite, the ones of the left side being the best developed. The left parietal region and the antero-internal portion of the left hemisphere seemed better supplied with vessels than the rest of the hemisphere and I believe I am safe in stating that these regions must have required more nutriment than the rest of the hemisphere and were consequently of a higher functional development. I am convinced that a highly developed part of the brain as far as function is concerned has a relatively highly developed blood-supply and vice versa, and therefore I believe that the left temporal lobe was of low development.

For the purpose of obtaining a better idea of the value of measurements taken in this case I have arranged the measurements of the brain of the lately deceased eminent Russian Scientist, Professor Mendelejew, as given by Bechterew,[15] alongside of those of Junkins.

MEASUREMENTS OF THE HARDENED BRAIN COMPARED WITH THE SAME OF MENDELEJEW

	John Junkins	*Mendelejew*
Weight	1,438 gm.	1,571 gm.
Height of brain	117 mm. Measured from posterior border of pons to highest point in parietal region.	111.5 mm.
Breadth of brain	127 mm. Taken between the two ventral ends of the two sulci centrales.	145 mm.
Bitemporal diameter	137 mm. Taken between the two most prominent points of the lobi temporales.	156.5 mm.
Biparietal diameter	127 mm.	147.5 mm.
Bifrontal diameter	101 mm. Taken between the gyri frontales inferiores.	130 mm.
Length of Corpus callosum	77.78 mm.	85 mm. (Note 45)
Length of lobus frontalis	38.1 mm. Measured from the genu corporis callosi.	38 mm.
Length of hemisphere	63.5 mm. Measured from the splenium corporis callosi to the polus occipitalis.	68 mm.
Angle formed by cerebrospinal axis and fronto-occipital line	64	67

14. Donaldson, H. H.: The Growth of the Brain, 1905.
15. von Bechterew, W.: Das Gehirn des Chemikers, D. J. Mendelejew, Anat. und Entwicheiungsgeschichtliche Monographien von Prof. W. Roux, Heft 1, 1909, Leipsic.

	John Junkins		*Mendelejew*	
	HEMISPHERES		HEMISPHERES	
	Left	Right	Left	Right
Height	107.95 mm.	Same.	108 mm.	110.5 mm.
Length	177.8 mm.	Same	193 mm.	Same.
	From polus frontalis to polus occipitalis.			
Length of lobus frontalis	158.75 mm.	165.1 mm.	125 mm.	127 mm.
	From central end of sulcus centralis (Rolandi) to polus frontalis.			
Length of lobus parietalis	50.8 mm.	Same.	62 mm.	70 mm.
	From central end of sulcus centralis (Rolandi) to pars externa fis. occipitoparietalis.			
Length of lobus occipitalis	34.45 mm.	Same.	49 mm.	51 mm.
	From pars externa fis. occipitoparietalis to polus occipitalis.			
Height of lobus temporalis	34.45 mm.	50.8 mm.	47 mm.	55 mm.
	Upper point close behind lower end of gyrus post-centralis.			
Length of sulcus centralis (Rolandi)	95.25 mm.	101.6 mm.	93 mm.	92 mm.
Breadth of gyrus centralis posterior—				
Above	3.17 mm.	6.35 mm.	20 mm.	12 mm.
Below	31.7 mm.	6.35 mm.	.....	.....
Breadth of gyrus centralis anterior—				
Above	9.52 mm.	19 mm.	12 mm.	15 mm.
Below	12.7 mm.	12.7 mm.	12 mm.	15 mm.
Impressio torcularis (Retzii)	Slight.	Well marked.	Absent.	Absent.
Antero-posterior curve	260 mm.	254 mm.	.....	.....
Antero-posterior diameter	177.8 mm.	171.45 mm.	.....	.....
Anterior curve (‡)	152.4 mm.	146.05 mm.	.....	.....
Middle curve (‡)	53.17 mm.	63.5 mm.	.....	.....
Posterior curve (‡)	50.8 mm.	34.45 mm.	.....	.....

(‡) The anterior curve extends from the polus frontalis to the point where the sulcus centralis (Rolandi) strikes the margo supero-medialis. The middle curve extends from the latter point to the place where the fissura occipito-parietalis strikes the margo supero-medialis. The posterior curve extends from the latter point to the polus occipitalis.

MACROSCOPIC EXAMINATION OF THE BRAIN

It would be impracticable to give a detailed description of each sulcus and gyrus in this paper and I will therefore present only the most marked variations from the normal found in this case. The cerebellum was well covered by the occipital lobes. The gyri of the postero-superior and posterior parts of the lobus frontalis were very large and coarse and in addition to the antero-superior part of the lobus parietalis and the anterior part of the lobus temporalis formed the coarsest part of the hemisphere. The posterior part of the gyrus frontalis superior was especially coarse in both hemispheres. The lobus parietalis was largest on the left side. The medial surface of the anterior end of the lobus frontalis, of the lobus parietalis and also the tentorial surface of the latter showed a few small additional sulci. The occipital lobes seemed smaller than normal and the posterior part of the left when pulled backward and downward presented the appearance of a rudimentary portion which was folded over the rest in an upward and forward direction. The temporal lobes were large and coarse and presented peculiarities which will be mentioned later. The insula was slightly exposed, especially on the right side. The lower end of the sulcus centralis (Rolandi) formed a half circle with its concavity backward, and the gyrus transitivus found within this sulcus was very large. The sulcus cinguli was double on the left side and its posterior part incised the margo superomedialis distinctly ¼ inch posterior to the upper end of the sulcus centralis (Rolandi). The anterior part of the sulcus frontalis medius seemed to represent the anterior part of the sulcus frontalis superior. The sulcus paramedialis formed a large well-marked sulcus on the left and consisted of three pieces on the right side. The gyrus frontalis superior

seemed shorter than normal and its anterior part was formed by the gyrus frontalis medius on both sides. The left gyrus frontalis medius seemed to form the entire anterior portion of the lobus frontalis to the

Figure 3.

extent of an area 1½ inches square, whereas the right formed a similar area of about two-thirds that size. The right pars opercularis was very large and about one-quarter inch larger than the left. The left sulcus

postcentralis superior joined the upper part of the sulcus centralis (Rolandi). The left ramus horizontalis sulci interparietalis indented the margo supero-medialis but was normal on the right side. The gyrus occipitalis superior lay ⅛ inch beneath the surface and seemed to be rudimentary. This latter condition is similar to that shown by Schafer[16] and F. P. Mall,[17] except that this does not seem to be an annectant. The left gyrus supramarginalis and gyrus angularis were very large. The left gyrus centralis posterior was fully 1¼ inch wide at its lower part and tapered above; the right was ¼ inch in diameter or about one-third the size of the gyrus frontalis anterior. The gyrus occipitalis lateralis formed nearly the entire lobus occipitalis instead of a little less than the inferior half. Two annectants were found within the left sulcus temporalis superior, similar to the large annectant within the sulcus centralis (Rolandi). The left sulcus temporalis medius consisted of two parts and incised anteriorly the polus temporalis and posteriorly the margo infero-lateralis. The gyrus temporalis superior was 4¼ inches in length and ½ inch broad on both sides, the posterior part of the right being ¾ inch wide. The left gyrus temporalis medius was 4½ inches long and 1 inch wide instead of ½ inch, and the right one was 4¼ inches long and ¾ inch wide, except at its posterior part, where it was 1½ inches wide. The gyrus temporalis inferior was shorter but much broader than normal. The temporal operculi were large but the right were the largest. The gyri breves of the insula were well marked but very coarse. The uncus was well marked but most prominent and coarsest on the right side. In order to shorten this paper materially, I must abstain from giving measurements of the sulci and gyri and be content to say "as compared with the average measurements taken from fifty brains[18] the great variations in that line point distinctly to the left parietal and the frontal and temporal regions."

Pansch[19] mentions the sulcus frontalis inferior, the sulcus centralis, the sulcus interparietalis, the sulcus temporalis superior, the sulcus olfactorius, the fissura occipito-parietalis and the sulcus calloso-marginalis as primary sulci, which appear in the sixth month of fetal life and have always the same appearance and characteristics in their main parts. Sernoff[20] states that there are only five and takes exception to the sulcus frontalis inferior and the sulcus interparietalis, and states that the sulcus precentralis inferior is constant and that the sulci frontales superior et inferior et interparietalis are mostly present and that the presence and number of the rest is not constant and varies greatly. In connection with these facts I have found irregularities of primary sulci in the parietal and temporal regions and of secondary sulci in the frontal regions, as can be varified by a close examination of the accompanying photo-

16. Quain's Anatomy, 1902, iii, part 1, p. 138.
17. Mall, F. P.: Am. Jour. Anat., ix, No. 1, p. 20.
18. Hoeve, H. J. H.: A Manual of Dissection and Practical Anatomy of the Head and Neck, Des Moines, 1910.
19. Pansch, A.: Ueber die typische Anordnung der Furchen und Windungen auf den Grosshirnhemispharen des Menschen und der Affen, Archiv. f. Anthropologie, Bd. 3, S. 227; ibid, Bemerkungen über die Faltungen des Grosshirns und ihre beschreibung, Archiv. f. Psychiat., Bd. 8, Hft. 2, 1877.
20. Sernoff, D. N.: Individuelle Typen der Hirnwindungen des Menschen, Moskau, 1877.

graphs. In connection with secondary and tertiary sulci we may quote Quain, who states that there seems to be distinct evidence to show that complexity of convolutions generally goes hand in hand with intellectual development of the individual. In many cases the brains of men of known intellectual capacity have been examined, complexity due partly to the development of secondary sulci and partly by the more curved course taken by the principal sulci, has been decidedly and in some instances extraordinarily marked. Indeed, in some instances a relationship seems to have been apparent between a particular type of mental development and the special part of the brain. If we examine the photographs closely we find that Junkins' brain represents a comparatively simple type and that tertiary sulci are marked in very few places. Knowing that the primary sulci have a typical arrangement, that the secondary and tertiary sulci vary the more, the later they appear, that they are especially numerous in brains with many gyri, and knowing from Pansch[19] that the deeper a sulcus the greater its age, I do not hesitate in stating that the frontal and parietal regions of this brain were very late in developing (maturing) and that the temporal lobe had as yet not reached its full complexity.

Benedickt[21] has pointed out that the human retrograde brain was theromorphic; that is, simulated in its surface markings the brain of a carniverous animal on account of the presence of four frontal gyri, which condition is brought about by the presence of the sulcus frontalis medius. This condition is present in the brain under consideration, but the human brain in its course of development does not pass through a carniverous phase, so this can have no weight.

The partially uncovered condition of the insula is normal in the ungulates, as there it is occasionally found entirely uncovered. Parker[22] has found it uncovered in nine out of thirteen negroes and in our dissecting room I have found it uncovered in six out of fourteen negroes.

The lower part of the sulcus centralis (Rolandi) being turned backward, reminds of a similar normal condition in the ape,[23] and the peculiar formation of the upper part of the lobus occipitalis recalls to mind the operculum occipitale (Gratiolet) as found in the ape. This latter condition is found in 4 per cent. of male convicts (Tenchini).

The upturned end of the left sulcus cinguli incised the margo superomedialis in a manner similar to the sulcus cruciatus of the carnivoræ, and this same condition was present in the right hemisphere.

The sulcus paramedialis was enormously marked in this case and Cunningham's statement that this sulcus is deeper and better marked in the higher types of human brains seems to be of no value. It may never be developed in the ape, but in this case it certainly is well developed in a very low type of human being.

The enormous size of the anterior end of the gyrus frontalis medius is difficult to explain, but I believe I am safe in stating that in this case

21. Benedickt, M.: Raubthiertypus am menschlichen Gehirn, Med. Centralbl., 1876, No. 52.
22. Parker, A. J.: Cerebral Convolutions of the Negro, Proc. Acad. Nat. Sc., Philadelphia, 1878.
23. Schwalbe, G.: Lehrbuch der Neurologie, 1881.

it was developed at the expense of the anterior end of the gyrus frontalis superior.

According to Lombroso,[24] anomalies of convolutions are most frequent among the male criminals, and here we may mention the enormous size of the gyrus angularis sinister, the peculiar triangular shape of the gyrus postcentralis sinister with a very thin pointed upper end and the very narrow gyrus postcentralis dexter, etc.

We can readily appreciate that there exist great variations between the course and relative development of the fissures and convolutions of the two hemispheres of the same brain, but according to Quain this does not seem to be of any special value and by studying the writings of Huschke,[25] Rudinger,[11] Sernoff,[20] Pansch,[19] Giacomini,[21] Eberstaller[27] and Cunningham[28] one receives the idea that there is no constant relationship between any of the variations found to occur, and race, age, sex and occupation and the general idea seems to force itself to the surface that ultimately only racial differences can be established which show that the brain of other races than the European have an average complexity below that of the latter, Schwalbe.[23] Only of late have we received a little more light on this question, as Campbell[29] in 1905, and especially Brodmann[30] in 1902 and 1907, pointed out histologic differences between different areas of the cortex, and one can readily appreciate that in many instances the shape and size of a gyrus will be affected by the number, location and distribution of its constituent neurones, as through Bolton[31] we learn that the relative areas of Brodmann's maps differ greatly in different individuals as shown by him in illustrations of the extent of the visuosensory area in six cases. At this time the function of a few of the anatomically differently constituted areas of the pallium is fairly well understood, but as yet we are unable to explain why in a case like Junkins' the gyrus temporalis medius is of such enormous size. It seems to me that Gall[32] and Spurzheim[33] were right in exchanging the scalpel for psychologic anatomy, after having arrived at similar conclusions based on different ground, but let us not forget that areas differing functionally must differ anatomically.

Professor Benedict[34] of Vienna recognizes a type of criminal brain which shows extensive connections between the main fissures and sulci,

24. Lombroso: The Female Offender.
25. Huschke, E.: Schadel, Hirn und Seele des Menschen und der Thiere nach Alter, Geschlecht und Race, Jena, 1854.
26. Giacomini, C.: Guida allo studio delle circonvoluzione cerebrali dell'uomo, Torino, 1878.
27. Eberstaller, O.: Zur Oberflachenanatomie der Grosshirn-Hemisphäre, Wiener med. Blatter, 1884.
28. Cunningham, D. J.: The Complete Fissures of the Human Cerebrum and Their Significance in Connection with the Growth of the Hemisphere, Jour. Anat. and Physiol., 1890, xxiv; ibid, Contributions to the Surface Anatomy of the Cerebral Hemispheres, Dublin, 1892.
29. Campbell, A. W.: Histol. Studies on the Localization of Cerebral Function, Cambridge, 1905.
30. Broadmann, K.: Beiträge zur histologischen Lokalisation der Grosshirnrinde, Jour. f. Psychol. u. Neurol, 1902-1907; ibid, Die Cortex Gliederung des Menschen, Bd. 10, 1907.
31. Bolton, J.: The Exact Histological Localization of the Visual Area of the Human Cerebral Cortex, Phil. Trans., 1900, B. 191, p. 165.
32. Gall, F. J.: Rcserches sur les fonctions et les proprietes du syst. nerveux cervicale, Paris, 1828.
33. Spursheim, J. G.: The Physiognomical System, London, 1815.
34. Benedickt, M.: Anatomical Studies on the Brains of Criminals, Vienna, 1881.

and I felt it my duty to study the brain under consideration from this standpoint on account of the following statements made by Benedict:

1. The brain of the lower human races, entire or in its various parts, corresponds more or less to the confluent fissure type. 2. Brains of inferior individuals certainly approach as a rule the confluent fissure type. 3. There is no doubt whatever, that this confluent fissure type is developed in embryo the same as found in the mature adult brain. Even Rudinger[11] states that in the fetal stage of existence the brachio and dolichocephalic brains exhibit their characteristic differences. Benedickt also states: If we imagine the fissures to be watercourses it might be said that a body floating in any of them could enter almost all of the others. He also mentions that a great number of the annectents are absent. He has tabulated the individual connections formed by the individual fissures and we will now proceed to examine Junkins' brain accordingly.

Lobus Frontalis.—1. The sulcus centralis (Rolandi) the sulcus centralis anterior and the sulcus centralis posterior show a great inclination to unite with the fissura lateralis cerebri (Sylvii). Left, present. Right, present.

2. One or the other of the sulci frontales is often connected with the sulcus centralis (Rolandi). Left, present. Right, absent.

3. The sulcus paramedialis is often deep and long, in which case it often penetrates deeply into the upper part of the gyrus centralis anterior. Left, present. Right, small deep sulcus.

Lobus Parietalis.—1. The sulcus interparietalis rises frequently out of the fissura lateralis (Sylvii) and blends occasionally with the upturned end of the latter. Left, incomplete. Right, no.

2. There often exists a transverse connection between the sulcus interparietalis and the sulcus centralis (Rolandi). Left, no. Right, no.

3. The sulcus interparietalis unites with the sulci temporales. Left, no. Right, with one.

4. The ramus occipitalis sulci interparietalis connects with the sulcus occipitalis transversus, the fissura occipito-parietalis and the fissura calcarina. Left, present. Right, only with sulcus occipitalis superior.

Lobus Temporalis.—1. The sulcus temporalis superior connects with the fissura lateralis cerebri (Sylvii) by transverse fissures. Left, not complete. Right, present.

2. The sulcus temporalis superior may connect with the sulcus interparietalis or the sulci occipitales. Left, not complete. Right, present with both.

3. The first and second temporal sulci communicate with each other and send out a connection around the margo infero-lateralis to the fissura collateralis. Left, not complete. Right, present.

4. The lower occipital sulcus often connects with the fissura collateralis and the fissura calcarina. Left, no, incomplete. Right, no.

Medial Surface.—1. The culcus cinguli connects with the fissura occipito-parietalis. Left, no. Right, no.

2. The sulcus centralis (Rolandi) penetrates deeply into the medial surface and is connected with the sulcus cinguli. Left, present, but does not connect. Right, present.

3. The fissura calcarina unites in an atypic manner with the fissura hippocampi. Left, does not unite. Right, does not unite.

4. The fissura hippocampi unites with the fissura collateralis. Left, present. Right, no.

According to Benedickt, there exist between the normal type with the typically separated fissures and the confluent fissure type manifold transitions, inasmuch as more or less of the annectent gyri are not developed at the surface but remain concealed as underlying annectent gyri (plis de passage) in the stricter sense. Benedickt emphasizes especially the absence of a great number of annectents and states that these brains differ from the school type. It is not a single deviation by itself which constitutes the characteristic of the type, but rather a general deviation. Those brains which exhibit numerous deviations from the school type and approach the confluent fissure type must be ranked under the head of the latter type and brains with few or isolated deviations from the school type must be considered as belonging to that type. From the foregoing it can readily be seen that it is impossible to speak of Junkins' brain as belonging to the confluent fissure type, as there are only six positive findings among the fifteen points each hemisphere was examined for and I would rather state that this brain deviated slightly from the school type. That Junkins was an inferior individual is certain, and according to Benedickt's own statement the brains of these individuals approach as a rule the confluent fissure type, so that I do not think it correct to classify the brain under consideration as a criminal brain according to Benedickt's findings. Furthermore, having inspected the brains of our average dissecting material, I necessarily arrived at a similar conclusion, as Giacomini, who states that the so-called criminal type of Benedickt is actually less frequently encountered in convicts than in those of ordinary persons. Having in mind the source of average dissecting material, knowing that it consists of the remains of those who have suffered complete shipwreck in life through a low grade of intelligence, imperfect motor development, or through vice, prostitution or drink so that they could not even procure the necessary means for their burial and also having examined the brains of some humans I knew before death to have acted perfectly rational, people who had good success in their line of pursuit and having found some perfect confluent fissure types among those, I am even more convinced of the truth of this statement.

Not having found an abundance of annectents, I cannot agree with Mingazinni (1895), who states: "That on account of annectents being more frequent in criminal brains, we had more reason to accept a type of confluent convolutions than fissures. I must admit that I have seen the gyrus cunei placed very superficial in three out of five criminal brains which seems to correspond to findings of Lombroso, Benedickt and Mingazinni and which, according to Mickle,[35] is a recognized sign of inferiority.

35. Mickle, W. J.: Atypical and Unusual Brain Forms, Jour. Mental Sc., July, 1896, p. 541.

MICROSCOPIC EXAMINATION OF THE BRAIN

Since Golgi published his chromate of silver method in 1873, a new impetus has been given to the histological investigation of the cortex by B. Lewis and H. Clark,[36] who published a paper on the motor area, and in 1896 by Dr. Roncoroni,[37] Professor Lombroso's assistant, who pointed out the disordered development of the central nervous system of criminals as shown by: 1. The absence or great reduction of the deep granular layer of the cortex. 2. The unusual prevalence of the large pyramidal and polymorphic cells. 3. The frequency of cells in the white matter. In 1900, Bolton[38] published a paper giving the histology of the visual area in detail. In 1902, Brodmann[39] published on the histologic localization of the cerebral cortex, and in 1905 Campbell[29] published his wonderful book on the histology of the cerebral cortex, which renders the identification of many parts of the cortex possible by histologic methods. In 1906, articles appeared by Turner,[39] Vogt[40] and Watson,[41] which were of special importance, and in 1910 Bolton has proven histologic differences in the thickness of the layers of the cortex, due to disease or non-development. In addition, Bolton has given us a method for the micrometric measurement of the primary cell and fibre laminæ of the cortex, the results of which are far more satisfactory than those obtained by macro- or micrometric measurements of gray matter as performed by other authors. Naturally, I found it advisable to measure the layers in Junkins' cortex and compare the results with the averages obtained by Bolton in different cases, and the results are given in the accompanying table. For a detailed description of technique I must refer to the original paper.

	Average Thickness		
	Visuo-Psychic Area.	Visuo-Sensory Area.	Prefrontal Region.
	mm.	mm.	mm.
Flat average	0.094	1.903	1.462
Apex average	1.937	1.788	1.536
Side average	1.743	1.825	1.729
Base average	1.757	1.880	1.454
General average	1.382	1.845	1.545

I have examined different areas of the cortex of Junkins' brain by Golgi's method, but was not able to demonstrate anything of special value.

I am indebted to Professor A. R. Robertson, our pathologist, for the examination he made of the brain tissue. He reports as follows:

An examination of the two pieces of tissue left with me for examination, one piece coming from the posterior part of the left gyrus frontalis superior and the other from the middle of the left gyrus temporalis inferior of the brain of

36. Lewis, B., and Clark, H.: The Cortical Localization of the Motor Area of the Brain, Proc. Roy. Soc., 1878, No. 185.
37. Roncoroni (Dr.): Arch. di Psichiatria, Fasc. 1-2, 1896, xvii.
38. Bolton, J.: A Contribution to the Localization of Cerebral Function, Brain, 1910, xxxiii, part 129.
39. Turner, J.: A Study of the Minute Structure of the Olfactory Lobe and Cornu Amonis, Brain, 1906, p. 80.
40. Vogt, O.: Ueber strukteurelle Hirncentra, Verh. der Anat. Gesellsch., 1906, p. 74.
41. Watson, G. A.: The Pathology and Morbid Anatomy of Juvenile General Paralysis, Arch. Neurol., 1903, ii, 629.

John Junkins, shows histologically nothing of great interest. The cortical cells are quite well preserved. The nucleus is centrally situated and the protoplasm evenly stained. The neuroglia shows no increase. The vessels are very considerably dilated and the blood within them is partly laked. Throughout the tissue there is no evidence of old or recent injury or of inflammatory reaction. Histologically this tissue presents nothing abnormal.

Very sincerely yours,

A. Roche Robertson.

FIBRE DISSECTION OF THE BRAIN

In 1908, I published a short article on fibre dissection of the brain,[42] pointing out the facility of dissecting the large association bundles and a little later Professor Johnston[43] published a very able article on the same subject and arrived at similar conclusions as far as the utility of fibre dissection was concerned. In 1909, I published a more extensive article on fibre dissection,[44] which covered my method of procedure in detail and which mentioned especially the subsequent order in which the different bundles should be dissected. In 1910, my book[18] was published which in the section on the nervous system covers all that is necessary for the intelligent dissection and appreciation of the entire brain, especially in connection with the large interlacements formed by the different bundles. From the foregoing it can be seen readily that I could not abstain from submitting the brain under consideration to fibre dissection, although my desire was to keep the entire brain intact for more advanced histologic work. I therefore proceeded to prepare plaster casts of the hemispheres in order to save an exact copy of the gyri formation and its fissure type, and then I have only dissected the left hemisphere on account of Junkins being right-handed. The right one I shall report on in a future paper. To give a more comprehensive idea of the importance of the findings in this case I may say that my last class has dissected thirty-one hemispheres and that all the bundles and interlacements were found normal in location and relation in all of them except in two which were in a bad state of preservation. In connection with the left hemisphere of Junkins, I shall mention only the large association bundles as the rest of the fasciculi seemed to be normal in location and relations.

The Cingulum was normal in every respect.

The Fasciculus Occipito-Frontalis occupied its normal position, but was not well marked in its anterior part and was found fused with the posterior portion of the horizontal part of the fasc. longitudinalis superior. The anterior part of the bundle seemed to be replaced to a great extent by small association fibres forming connections between the gyri frontales superius et medius and extended centralward to the depth of one inch. The projection fibres passing through this region were well

42. Hoeve, H. J. H.: Revival of an Old Method of Brain Dissection, Proc. Iowa Acad. Sc., July 20, 1908, xv, 183.
43. Anatomical Record, ii, No. 8.
44. Hoeve, H. J. H.: A Modern Method of Teaching the Anatomy of the Brain, Anatomical Record, 1909, iii, No. 4, p. 247.
45. Mall, F. T.: On Several Anatomical Characters of the Human Brain, Am. Jour. Anat., February, 1909, ix, No. 1.
46. Christison, J. S.: Crime and Criminals, Chicago, 1900, p. 39. See photograph of Scott Price.

marked and coarse. A few fibres were given off from the bundle at the junction of its middle and posterior one-third which were joined by fibres from the anterior part of the cingulum and which passed forward around the corpus callosum, lateral to the cingulum and medial to the projection fibres in order to be distributed to the anterior and medial part of the orbital surface of the hemisphere. About ½ inch anterior to the splenium corporis callosi the bundle was distinctly separated from the cingulum by a bundle of association fibres, which dipped centralward to the extent of 1¼ inches and formed connections between the posterior part of the gyrus cinguli and the precuneus. Posterior to the level of the splenium corporis callosi another association bundle was found which extended from before backward between the posterior part of the gyrus cinguli and the posterior part of the precuneus.

The Fasciculus Longitudinalis Superior formed a large coarse bundle about three times as thick as normal and was fused at the posterior part of its horizontal portion with the fasciculus occipito-frontalis. It seemed to form mainly connections between the posterior portions of the gyri frontales medius et inferius and the posterior part of the lobus temporalis and the lobus occipitalis. Instead of a delicate interlacement being formed between its anterior part and the projection fibres sending branches to all parts of the lobus frontalis, I found that the bundle lay mainly external to the projection fibres and posteriorly instead of an intricate interlacement between it and the fasciculus longitudinalis inferior the bundle lay mainly external to the latter and sent only a few fibres to the posterior part of the lobus temporalis, whereas most of them passed to the posterior and inferior parts of the lobus occipitalis.

The Fasciculus Perpendicularis (Wernicki) was not well marked.

The Fasciculus Longitudinalis Inferior consisted of two distinct bundles, which were joined in the anterior part of the lobus temporalis. The external one of the two was the longer and interlaced slightly with the posterior end of the fasciculus longitudinalis superior but did not interlace with the posterior end of the fasciculus occipito-frontalis. The internal bundle passed backward, upward and inward medial to the postero-superior part of the fasciculus longitudinalis superior and intermingled in this locality with fibres of the postero-superior portion of the lemniscus temporalis et occipitalis. The anterior end of the external bundle interlaced only slightly with the posterior end of the fasciculus obliquus fasciculi uncinati, whereas the anterior end of the internal fasciculus interlaced distinctly with it.

The Fasciculus Uncinatus seemed normal in every respect, except that the beautiful interlacements which are normally found at the ventral part and the caudal part of the fasciculus obliquus fasciculi uncinati were not well marked on account of the deficiency of the other bundles which normally assist in forming them. Possibly the caudal part of the fasciculus obliquus did not extend quite as far backward as usual.

The Lemniscus Temporalis et Occipitalis, a comparatively fine fibered bundle, which followed its normal course through the temporal region

and had normal relations. Its posterior part seemed smaller than normal and its zone of termination seemed less extensive than usual.

It can readily be seen that the results obtained by this method point in a similar direction to the results obtained by the previous methods of investigation mentioned, namely, to atypical or defective formation.

SUMMARY

1. John Junkins had a bad family history and was a criminal by birth, by education and by environment.

2. By careful study, it is possible to recognize defective or atypically constructed human beings.

3. The body of Junkins showed a much larger percentage of anomalies than is found in average bodies.

4. Junkins' skull showed a large percentage of anomalies.

5. Junkins had the gyri type of a dolichocephalic, but was a mesaticephalic.

6. Too early closure or ossification of sutures or irregularities in the embryonal development of the flat bones of the skull constitute factors which to a great extent determine the gyri and fissure type of the brain.

7. The vessel findings seem to point toward the left temporal lobe as being of low development.

8. The measurements of the gyri and sulci of Junkins' brain compared with average measurements of fifty brains point distinctly to great variations in the left parietal and the frontal and temporal regions.

9. Close study of the gyri and sulci shows that the frontal and parietal regions were late in developing (maturing) and that the temporal lobe had as yet not reached its full complexity.

10. The shape and size of a gyrus will be affected by the number, location and distribution of its constituent neurones.

11. According to Professor Benedickt's classification of criminal brains, we must classify Junkins' brain as slightly deviating from the school type.

12. Bolton's micrometric measurements of the primary cell and fibre laminæ of the cortex seem to show a deficiency in gray matter.

13. Fibre dissection of the brain shows distinct under-development, anomalous development and atypical construction of the association bundles.

14. There is no doubt in my mind but that John Junkins was an atypically-constructed human being, an anatomical defective, and consequently the possessor of an atypically functionating mind.

15. Being convinced that in non-diseased criminals there must exist an anatomical basis for crime, and knowing also that criminals of this class cannot be recognized by juridical and psychologic methods only, *I do not hesitate in recommending the abolishment of capital punishment* and the erection of special establishments for the perpetual or indefinite seclusion of incorrigible criminals, as is also recommended by Lombroso in Italy, Leveillé in France, Minzloff in Russia, May in England, Kraepelin and Lilienthal in Germany, Wallberg in Austria, Guillaume in Switzerland, Van Hamel in Holland, Lucas in Portgual and Wines and Wayland in America.[8]

DISCUSSION

Dr. Carl Wagner: On account of lack of time it was impossible for me to prepare a special paper and therefore must limit myself to a few brief, general remarks.

As doubt is often the source of some new scientific departure so formed the Lombroso's skepticism of the French term of "Moral Lunatics" the foundation of the new science called "Criminal Anthropology." The application of experimental methods to the study of the diversity between lunatics, criminals and normal individuals produced a solid working foundation which found its way into jurisprudence and created the modern or positive school of penal jurisprudence, which maintains that anti-social tendencies of criminals are the result of their physical and psychic organizations which differ essentially from that of normal individuals, while on the contrary the old classical school of penal jurisprudence upheld that criminals possess the same intelligence and feelings as normal individuals and therefore only the offense itself could come in consideration for the determination of the punishment. The greatest stimulus for the development of criminal anthropology was brought about through the findings at a post-mortem held on the body of Jack the Ripper, named Vitella, in Italy. On the place of the occiput which corresponds to the crest in the normal, a depression was formed which bears now the name of "median occipital fossa."

This depression, as in the case of animals, was correlated with the hypertrophy of the vermis known in birds as the middle cerebellum. This vermis was so enlarged in the case of Vitella that it almost formed a small intermediate cerebellum like that found in the lower types of apes, rodents and birds. This anomaly is seldom met with in the insane or other degenerates but later investigations have shown it to be prevalent in criminals. "This discovery was like a flash of light. At the sight of that skull he seemed to see all at once, standing out clearly illumined as in a vast plain under a flaming sky, the problem of the nature of the criminal who reproduces in civilized times characteristics not only of primitive savages, but of still lower types as far back as the carnivora." The various careful studies and observations of those engaged in the pursuit of criminal anthropology have shown that in most of the delinquents anomalies occur in almost any part of the body. This fact is well shown in the case of Dr. Hoeve's, in which the number and variety of anomalies exceed by far the average known to exist in a single individual. The question of linear craniectomy which he proposes as possible cure in some cases, especially if it can be done in the age of adolescence, deserves notice and probably advocation of trial. While it may be novel as in regard to this special application, it is by no means an innovation in mentally defective ones, as Lannelongue of Paris had very enthusiastically introduced it in 1890 for the cure of idiots. We practiced this new operation here in Chicago in 1891-1892 in a number of cases, but had to come soon to the same conclusion from our practical results of the operation, as St. Marie, head of the great Insane Asylum at Bicêtres near Paris, in his theoretical deductions and resulting polemic against the Lannelongue linear craniectomy. He maintained that the cranial bones stop growing and the fontanelles and sutures close, because the brain has ceased to grow and not as irrationally has been accepted by Lannelongue that the brain stopped growing because the early closing and ossification of the fontanelles and sutures prevented it from developing. The opinions held by all experienced in the question was soon unanimous in the sense of St. Marie's teaching and the operation abandoned as based on a fundamentally theoretical error. The presence of pathologic conditions or anomalies may lend another aspect to the feasibility of this operation. In speaking of another very important point of Dr. Hoeve's paper, namely, the consideration of abolishment of capital punishment and substitution of surgical interference, it might be suggested that for trial sake of his proposition and the study of the question of how much or at all a criminal is mentally and morally responsible in view of the presence of anatomical anomalies, one might leave an alternative for the convicted criminal to chose between capital punishment or submission to an operation, the feasi-

bility and advisability of which should first be considered by a council of true students of criminal anthropology, neurologists, and surgeons well versed in this highly responsible subject.

In closing I should like to say: in view of the glorious fact that America was the first country to receive with open arms the principles of the new school of criminal anthropology, it lends special interest to this most important topic and it would seem desirable that we might have occasion to listen often to treatises on this subject. America did not only readily understand the remote national-economical meaning of this new school, but true to its enterprising spirit put the same immediately into practical use, as is readily shown by the wonderful results of the Reformatory at Elmira, the Probate System, Juvenile Courts, George Junior Republic, etc. This country has shown the highest conception and appreciation of criminal anthropology by introducing in its court-trials of importance anthropological cooperation, which is absolutely original with the United States, and gives to America the credit of wise progressive intelligence in criminal jurisprudence.

Dr. H. E. Sautlee, Chicago: I have listened to Dr. Hoeve's address with deep interest. His investigation is a remarkable one. If such a study could be made of all our major criminals, every source of information exhausted and the facts systematized and recorded with such painstaking care as Dr. Hoeve has exercised, we might arrive at conclusions that would revolutionize our criminal code.

For a hundred years it has been the constant endeavor of investigators to establish a definite relation between the mind and the brain. Since the publication of the work of Franz Joseph Gall one school of investigation has sought the physical basis of "mental faculties" in definite gyri of the brain, and its work has been very fruitful. To-day among students of the nervous system, it is universally believed that definite limited regions of the cerebrum are connected with and absolutely essential to certain phases of mental activity. This cannot be doubted since the work of Fritsch and Hitzig on the motor points of the dog's brain (1870) has been corroborated by scores of men, including myself, and the embryologist, the pathologist and the experimentalist have done much more than locate the motor points of the human brain. We know the location of the emissive motor centers, the psychic motor centers, the receptive centers of common sensation, the centers of vision and hearing, etc., numbering altogether thirty-six distinct centers; and we know that the cortex of the cerebrum in these centers has a structure so characteristic that under the microscope we can recognize sections of them just as we can diagnose spleen, or stomach or duodenum. Thus we may say, that along the line of locating the physical bases of definite mental functions great progress has been made.

A second school of investigation has attempted to establish a ratio between quantity of brains and mentality. Its results have been almost entirely negative, because:

1. Some great men have large, some small brains.

For example the brain of Gauss, the great mathematician, weighed 1,492 gm.; Agassiz, the naturalist, 1,512 gm.; Cuvier, naturalist, 1,830 gm.; Daniel Webster, the great American orator and statesman, 1,516 gm.; and Gambetta, orator and statesman of France, 1,292 gm.

2. Some men of low mental capacity have large brains, as have also the whale and elephant.

3. Cortex differs in area and thickness in brains of same size, ranging from 1.5 mm. to 3.9 mm.

4. Neurones vary in capacity and in number per c.mm. of cortex; they are more numerous in lower animal brains, but richer in dendritic processes in the human brain.

Therefore, size and weight of brain do not determine capacity.

A third line of brain study seeks to establish a relation between mental capacity and the number and complexity of cerebral convolutions. This line of study touches defective development and the presence of anomalies and promises

well for the future. That there is a relation between complexity of gyri and the mentality of the individual is supported by the fact that the permanent cerebral gyri begin to appear in the fifth month in utero and gradually develop thereafter; also by the fact that the lower type monkey's brain, which presents the general human pattern, is very much simpler than the human brain and the higher types, as the chimpanzee and gorilla, have gyri and sulci approaching much nearer to the human complexity than the lower forms. And again, when we recall the fact, that, of the 200,000 sq.mm. of cortex in the average male brain, only one-third constitutes free surface and the other two-thirds bound sulci and fissures, we must infer that the number and depth of the sulci are facts of considerable importance. It is true that some very inferior animals have richly convoluted brains and that the brains of some animals higher in the scale are non-convoluted; yet, in the same species of animal, we have some evidence suggesting a correlation between complexity of gyri and mentality; especially is this true in limited regions of the human brain. In skilled artisans a high development of the middle third of the anterior central gyrus and the foot of the middle frontal gyrus (arm areas) has been recorded in a few cases, while the left inferior frontal gyrus has been found to possess marked complexity in certain great orators, as in Gambetta of France, and others; but not enough observations are on record to justify a positive conclusion. The brain of John Junkins, which has very simple gyri, furnishes new evidence to support this theory of low mentality in association with few simple gyri.

To establish a correlation of brain architecture and the moral sentiments is even more difficult of proof than the foregoing propositions. We do not know the location of that part of the brain connected with the moral sentiments. We assume that the physical basis of ethical principles must be a complex associative mechanism connecting widely separated parts of the cerebrum, the probable center of this mechanism being in the left frontal lobe in right handed people. Proceeding from this assumption, we may conclude that defective association tracts, such as Dr. Hoeve has found in Junkin's brain, may be an element accounting for his deficient ethical principles. Certainly the principles of right and wrong and other ethical concepts are correlated to the highest functioning of a well-developed brain, while vengeance, cruelty, blood-thirst, and their like, are mental products mediated by inferior brains. This in a broad sense is but a statement of historical fact. John Junkin's brain has many features indicative of its low type, some of them being characteristic of the gibbon and the orang-outang and lower in the scale than the chimpanzee and gorilla. Given a brain, in some respects resembling a brute's, we expect a brutal mentality to accompany it.

Again, if anomalies are the persistence in the adult of an embryonic stage of development, and this seems their most reasonable explanation, then the enormous number of anomalies (about sixty found in the body of John Junkins outside the nervous system entirely) constitutes very strong testimony of incomplete development and low type of man.

At present we must admit the relations of character and anatomy are little understood; but, if there be any truth in Forel's proposition that a man thinks only as he may, only as is possible with his nervous mechanism, and there is surely some determining function in the brain, then Dr. Hoeve's studies touch and illumine in a modest way a problem of wide interest and far-reaching importance to the human race. Is a criminal merely a defective who cannot help committing crime? For the safety of society we are loath to admit such a proposition; and yet, we must be ready to receive with open mind all facts without prejudice, and maintain or modify our legal procedure in accordance with the evidence.

Fred A. Leusman: I move that a vote of thanks be extended the Doctor for this extraordinary presentation and his courtesy in coming here to give us the benefit of it.

Unanimously carried.

EXPERIMENTAL TRANSPLANTATION OF LEGS *

From the Department of Experimental Surgery of the Northwestern University Medical School

V. D. LESPINASSE, M.D.
CHICAGO

After having developed a method of end-to-end blood-vessel anastomosis and determined beyond a doubt that this method is sure, simple and easy of performance, the next logical procedure was to build on it as a foundation, and we turned to the transplantation of legs as a theoretically possible operation.

The transplantation of entire organs and extremities is a field of surgery that up to the present has been considered impossible. Now, however, this subject is a very live one from an experimental point of view and promises solution. This paper will report my work on the extremities of dogs and humans.

When a limb is completely severed all the structures must of necessity be reunited in order to obtain a perfect result. The skin, fat, fascia, muscles, bone and nerves are easily repaired, by well-known and standard technic. The blood-vessels and the lymphatics are vitally important structures that must be reunited and their union is the real problem.

The lymphatics are so small that they cannot be anastomosed directly but by a careful approximation of the fat and fascia through which the larger trunks run the lymphatic canals will reestablish themselves in from two to three weeks. This is proved by the occasional replacement of a completely severed finger-tip, instances of which have come under the observation of all of us. In the experimental work the legs were very edematous for from one to three weeks, and then they invariably returned to normal, showing that the union of the lymphatics will occur and is easy of accomplishment surgically.

We commenced our experiment by cutting the femoral vessels, reuniting them and then cutting about two-thirds of the thigh muscles. There was slight operative edema of the legs noticed, but this rapidly disappeared and in two weeks the wounds were healed and the animals were using their legs as well as before. In the next series we cut all the structures of the leg except the nerve, bone and femoral vessels. The nerves and vessels were stripped of their sheaths and the dissection carried down into their substance. The periosteum of the bone was cut; in this way all the lymphatics except those of the bone were destroyed. These animals all had good legs after healing.

Next all the structures were cut except the femoral vessels and these vessels were dissected out most carefully; all of their sheath and most of the adventitia was cut across so all the lymphatics that were left were in the substance of the blood-vessel walls themselves. These animals all had good non-edematous legs after healing.

The last series in this work was the complete severance of the leg from the body and its replacement by repair of all the various structures. The

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, May 16-18, 1911.

bone was wired, the skin, muscles, fascia and nerves were sutured, and the blood-vessels united, using absorbable magnesium rings.[1]

The legs gradually became edematous, this edema reaching its maximum about the fourth day. At this time the sutures would be loosened up and the dogs that had survived were beginning to walk around and lick their wounds, and as the legs were anesthetic from section of the nerves, they had no pain to deter them and in many cases they licked their legs off. After the operation the legs remained warm and the dorsalis pedis artery could be felt to pulsate for a variable period of time up to one week. Most of the legs became cold on the fourth day, but the last two operated when I used very heavy sutures in the skin, using first a continuous stitch and in addition interrupted stitches every inch, thus delaying the licking out of the sutures and motion in the amputated leg. The dorsalis pedis artery pulsated for one week and the leg remained warm for the same length of time.

HUMAN EXPERIENCE

Middle-Aged Intoxicated Man.—Car wheel run over the lower end of the arm, causing a compound comminuted fracture of the humerus and pulpifaction of the muscles and cutting the brachial vessels. The crushed bone and muscles were removed by Dr. Bohart and the blood-vessel anastomosis was done by myself. When the patient entered the hospital his hand was cold and there was no radial pulse. As soon as the arterial anastomosis was completed and the clamps removed the pulse came back and the hand became pink and warm. The pulse was present and the hand was warm up to the patient's death twenty hours after operation.

Case 2.—I had the privilege of operating on this patient through the courtesy of Drs. Owens and Eastman. Patient could not talk English, so we could not determine the mechanism of the accident. Examination showed a large ecchymosis of the left leg involving the lower thigh and upper leg, the foot was cold and the dorsalis pedis was not pulsating on incision in the median line of the popliteal space. The popliteal vessels were exposed; these were traced down, and at the lower limit of the popliteal space the artery was found torn square across. I removed a clot about 1½ inches long from the central end of the artery, cut off a trifle of the vessel end, which was badly contused, and then made an end-to-end anastomosis with magnesium rings. As no bones of this man's leg were fractured, there was no chance to shorten his leg, and as about 2 inches of the artery should have been removed and was not, the operation failed, the man dying of gas-bacillus infection on the fourth day.

CONCLUSIONS

Blood-vessel anastomosis will not save every crushed limb, but it will save a great many that now are amputated. The points to be considered in selecting cases are first, damage to the blood-vessels themselves; the crushed and contused portion of the blood-vessels must be removed. If you cannot bring the vessel ends together after this has been done, the

1. Technic described in full in Jour. A. M. A., Nov. 19, 1910, and Surg., Gyn. and Obs., May, 1911.

extremity must be shortened till approximation is possible. If the nerves are intact the probability of success is increased, as section of the nerve tends to vasodilatation, and hence stagnation of the blood stream, thus predisposing to thrombosis. A crushed limb should not be amputated without a careful examination as to the possibilities of resecting the crushed portion and replacing the hand or foot back on the stump.

DIAGNOSIS OF ASSOCIATED DISEASES OF THE EYE AND NASAL ACCESSORY SINUSES

FRANK BRAWLEY, M.D.
CHICAGO

The close relation of nasal to ocular disease becomes more apparent as we learn to look for the important diagnostic points. There are five types of accessory sinus disease affecting the ocular apparatus; acute or chronic sinuitis with external manifestations, as orbital cellulitis, abscess, tumor or edema of the eyelids; sinuitis without external signs but accompanied by optic neuritis, retinal disease, scotomata, visual field defects or ocular muscle paralysis; sinuitis as a possible cause of glaucoma, iritis, keratitis, uveitis, etc.; rarely mucoceles of the sinuses act as the etiologic factor, and lastly unilateral pain or headache due to rarefaction of the air within the frontal sinus or ethmoidal cells.

Symptomatology.—Asthenopic symptoms due to sinus disease are usually reflex in nature but may also be due to a toxic process or to stasis in the orbital circulation resulting from the circulatory disturbances within the diseased sinuses. These symptoms are identical with those due to refractive and muscular anomalies of the eyes and are therefore first seen by the oculist. Snydacker[1] has found that from 7 to 10 per cent. of the patients who consult the oculist on account of headaches are really suffering from disease of these sinuses.

The location of pain and headache due to sinus disease is not constant for each sinus, although in a general way the walls of the affected sinus are usually painful to pressure and stooping frequently serves to localize the pain by causing a sensation of pressure with increase of the pain within the affected cells. Sinus pain is frequently paroxysmal, beginning and ending at about the same hour each day. A confusing fact is the inability to use the eyes comfortably during the attacks of pain, leading the patient and his oculist to believe that their origin must be ocular. In such cases, however, there are always intervals during which the patient experiences no discomfort, no matter how much he uses his eyes, and again the pain of a sinus disease may occur at night, unlike the pain of eye-strain, which is practically always relieved by rest.

Visual Fields.—All varieties of visual field anomalies have been ascribed to sinus disease, but the most valuable findings are central and paracentral scotomata and enlargement of the blind spot. There is no

1. Klin. Monats. f. Augenh., June, 1909, p. 629.

space here to deal with the literature of these investigations. Suffice it to say that the work has been advanced by such men as Ziem, Birch-Hirschfeld, de Schweinitz, Van der Hoeve, de Kleyn, and Ramsey and Sutherland and a great many others.

Where a central scotoma is present it is usually unilateral and may be found only for colors, disappearing when the affected sinus is drained, or remaining to some degree where permanent damage to the central fibers of the optic nerve has occurred.

MacWhinnie[2] has described a horseshoe-shaped paracentral scotoma in disease of the posterior cells which gradually disappeared by segments following the establishment of drainage of these cells, returning when the drainage was interfered with.

Risley[3] has reported a return to normal vision and visual fields from proper drainage of the frontal and ethmoidal cells after two years of optic neuritis with flame-shaped hemorrhages throughout the fundus, impaired central vision and contracted fields.

One of the writer's cases with a well-defined papillitis and edema in the macular region due to a combined frontal, ethmoidal and antral infection, showed an absolute central scotoma for red and contraction of the fields for white and red chiefly temporally. Two months after operation to establish drainage, the field for white had extended 20° temporally, and only a slight relative central scotoma for red remained, the vision having improved from 20/100 and J. 10 to 20/30, and six months later the vision remained 20/30 and plus 1.50 S. gave J. 1. The papilla still showed some evidence of the exudates but the edema had disappeared.

De Schweinitz[4] has also described a ring scotoma in the left eye and a triangular paracentral scotoma in the right eye in a case showing pus in the left sphenoidal sinus. This case slowly improved following irrigation of the sinus. An unusual feature of this case was a fugitive episcleral congestion accompanied by a curious wrinkling of the corneal epithelium.

That the visual field is not always affected is shown by Haeffner and Henrici,[5] who found no disturbance of the fields in seventeen cases of ethmoidal and three sphenoidal sinus infections. In contrast to the scotoma of general toxemias, such as toxic amblyopia, chemical poisoning, etc., the scotoma due to sinus disease is usually unilateral.

The eyelids may show edema as a result of frontal or anterior ethmoidal infection, and this tends to lessen as drainage is established, being less at night than in the morning. Where orbital involvement occurs, the lids become swollen, red and indurated with edema of the conjunctiva. Edema of the upper eyelid is considered by Gerber to be one of the earliest symptoms of orbital involvement. Epiphora practically always accompanies a sinuitis which affects the eyes and is fre-

2. New York Med. Jour., August, 1910.
3. Ocular Affections Associated with Disease of the Sinuses, etc., Ann. Ophthal., October, 1908, p. 608.
4. Tr. Am. Ophthal. Soc., 1910.
5. Klin. Monats. f. Augenh., January, 1908, p. 1; quoted by Birch-Hirschfeld.

quently the earliest symptom. In addition, we are all familiar with the rôle played by sinus disease in the causation of the commoner diseases of the lacrimal apparatus.

The cornea and sclera are rarely affected in sinus disease, although Posey[6] and Gerber[7] mention the occurrence of a herpetic eruption on the cornea, and de Schweinitz has observed a wrinkling of the corneal epithelium in a few cases of episcleritis due to sinus disease.

Sinus disease should be excluded in all cases of paresis, paralysis or insufficiency of the ocular muscles. The external rectus is most frequently affected in the former conditions because of the close relation of the sixth nerve to the wall of the sphenoid sinus. The internal recti are very frequently affected due to their close apposition to the orbital plate of the ethmoidal labyrinth. Excursion of the eye-ball toward the affected muscle is usually painful.

Holmes[8] has observed complete paralysis of the extraocular muscles with ptosis recover almost completely within a few weeks following drainage of the frontal sinus, antrum and anterior ethmoidal cells.

Ziem[9] has produced strabismus experimentally by closure of one nostril, resulting in asymmetrical development of the orbit and ethmoidal cells.

Now that we are seriously considering the nose as a factor in ocular disease, we are finding these associated conditions more often. This is nowhere better exemplified than in the various intraocular diseases. The writer recently saw a case of severe iritis, where all indications seemed to point to an intestinal auto-intoxication as the cause. Proper diet and eliminative treatment for several days made no impression on the iritis and where at first a cursory nasal examination had revealed no sinus disease, at a later observation following the use of the suction apparatus, pus was found draining from the anterior ethmoidal cells. The iritis entirely disappeared within thirty-six hours following the successful drainage by means of the suction pump.

Eversbusch[10] has observed turgescence of the turbinate bodies on the side of the injured eye where sympathetic ophthalmia occurred and this nasal congestion disappeared after enucleation of the first eye. Eversbusch therefore considers this an important indication to enucleate.

Nasal operations have apparently caused intraocular hemorrhage, as in the case described by Holmes, where a circumscribed choroidal hemorrhage occurred 24 hours after removing a polypus with cauterization of the base. Thigpen[11] also observed a severe intraocular hemorrhage following the drainage of a sphenoidal sinus which required enucleation for a secondary glaucoma.

Axenfeld[12] has noted the frequent occurrence of chills at the onset of retrobulbar neuritis, and considers this symptom to indicate the accessory sinus as the probable cause.

6. Jour. Eye, Ear and Throat Dis., November-April, 1905, p. 31.
7. Die Complication on der Stirnhohlen, 1909.
8. Ohio State Med. Jour., February, 1906.
9. Monats. f. Ohrenheil, August, 1893, p. 231.
10. Graefe-Saemisch Handbuch, 2 aufl., 61 n., 62 liefer, s. 65.
11. Tr. Sec. Ophthal., A. M. A., 1910.
12. Lancet, London, Aug. 8, 1908.

Widmark[13] reports a case of bilateral retinal detachment which was, in his opinion, cured by treatment of polypoid degeneration of the lining membrane of the ethmoidal cells and a maxillary sinuitis with orbital inflammation. The retina of one eye reattached in twelve days with vision of 9/10, while the other eye recovered in one month; vision not given.

Posey[14] has reported a special type of retrobulbar inflammation caused by acute posterior sinuitis due to sea bathing. His cases exhibited hazy vision, diminished light sense, central scotomata, and usually pain on pressing of the globe backward into the orbit. Posey believes that edema of the optic nerve occurs in these cases, and has in some instances noted blurring of the papilla and partially dilated pupil.

Orbit.—In view of our present belief, as expressed by Birch-Hirschfeld, that practically all orbital inflammations are due to disease of the accessory sinuses, it seems remarkable that even as late as 1882 Schwendt published a dissertation on orbital disease in which these sinuses received no mention whatever. The picture of orbital inflammation, with the red, brawny, swollen eyelids and displaced globe is familiar to all. Some idea of the source of the infection may be gained by noting the direction of the displacement of the eye-ball, down and out in the frontal sinus infection, outward or up and out in the ethmoidal; and in sphenoidal disease the globe is proptosed almost directly forward.

Van der Hoeve[15] has found enlargement of the blind spot, which he calls peripapillary scotoma, to be one of the earliest symptoms in disease of the posterior acessory sinuses. His own investigations and those of de Kleyn revealed this symptom in fifty-four of fifty-nine cases of disease of the posterior cells, and only once in disease of other regions of the nose. He considers that this symptom is positive when the color scotomas are larger than that for white, or the extent of the blind spot for white and colors is greater than normal or the size of the scotoma changes during the course of the nasal disease.

An interesting experiment by de Kleyn[16] showed that when the ostia of the accessory sinuses were blocked by a tampon the peripapillary scotoma was produced only in the sinuses having diseased lining membrane, so that toxins apparently play the chief rôle. This type of the enlargement of the blind spot of Mariotte is to be distinguished from the scotoma of the toxic amblyopias, which frequently include the region of the blind spot, and especially from that peculiar vertical spindle-shaped enlargement noted by Maitland Ramsey and Sutherland[17] in sympathetic ophthalmitis. Accurate mapping of the blind spot is not possible, however, without the use of a Bjerrum screen.

---

13. Ophthalmic Review, September, 1908, p. 280.
14. Ann. Otol., Rhinol. and Laryngol., June, 1909, p. 354.
15. Enlargement of the Blind Spot, etc., Archiv. Ophthal., January, 1911, p. 30.
16. A Contribution to the Study of Optic Nerve Disease, etc., Archiv. Ophthal., lxxv, No. 3.
17. Spindle-Shaped Enlargement of the Blind Spot, Associated with Congestion of the Optic Disc, Ophthal. Review, January, 1906.

If at the first appearance of the lid edema the sinuses are investigated and proper drainage established, it would rarely be necessary to do the radical operations about the orbit and the safety of the globe would be assured. The writer has had the experience of operating by the orbital route and finding no pus in the orbit but diseased posterior ethmoidal cells. Since that time several cases have been apparently permanently cured by intranasal operation alone and in one case by evacuation of infected ethmoidal cells by means of the suction pump. This latter case, however, was treated only about six weeks ago, too soon to draw conclusions. The presence of streptococci or pneumococci in the sinus pus in the orbital inflammations indicates the necessity for early operative intervention, as these cases present the most violent reactions and are likely to extend rapidly and result fatally.

A fatal case of streptococcus infection occurred in the writer's practice. The patient, aged 76 years, had suffered from severe headache for six weeks and was constantly under opiates. There was a unilateral optic neuritis, which had resulted in complete blindness when first seen. Skiagraphs were negative for all sinuses except the sphenoid, and I was assured that this sinus could not be well shown in a skiagraph. Examination by means of the suction pump upon four occasions showed mucopus draining from the corresponding choana. The anterior sphenoidal wall was accordingly removed and the lining membrane found to be discolored and much thickened. Examination a few hours after operation revealed necrotic bone at the supero-external angle of the sinus and thick pus was draining from the wound. The headache was at once relieved, and no further opiates were required. In spite of drainage, however, the process gradually progressed and resulted fatally from meningitis fourteen days after operation. Cultures from the sinus and the blood showed streptococci.

As improvements in diagnostic methods, such as the *x*-ray and the vacuum apparatus, make early diagnosis of sinus disease possible, we are more frequently detecting its influence on the ocular structures. We are also finding that the ethmoidal cells are much more frequently diseased than we formerly believed and that they act much more frequently as the source of the ocular disease than the frontal or maxillary sinuses which, doubtless, owe their past prominence in this respect to their greater accessibility. It is sometimes difficult to differentiate between orbital diseases of sinus origin and that due to new growths, but nasal findings, skiagraphs, temperature and differential blood count should decide the question.

In closing, I wish to make a plea for the routine examination of the nose in all cases of ocular disease, and also for the exercise of conservatism and careful judgment to avoid needless operative work on so important a functionating organ as the nose. Too great enthusiasm in this direction cannot fail to reflect discredit on this work, and to some extent retard its progress.

ON THE INTERNAL SECRETION OF THE THYROID WITH BRIEF CONSIDERATION OF OTHER FACTORS OF THE GLAND

AXEL WERELIUS, M.D.
(In Connection with paper on Goiter Among Insane)
CHICAGO

Of late great interest has been centered about the supposed internal secretion of the thyroid. Oliver and Schafer,[1] Von Cyon,[2] Von Cyon and Oswald,[3] conclude from their experiments that an iodized protein "thyro-iodin" is the active principle of this secretion. Their view is supported by a great many observers.

The work of others, however, especially that of Furth and Schwartz,[4] throws great doubt on the specific property of this substance. These latter men found that iodized blood-albumen behaved the same as thyro-iodin; in fact, any iodized substance acted similarly. Thus the activity of thyro-iodin may be due entirely to the iodin present.

From the histology of the gland with its vesicles lined with epithelial cells pointing alveolar-ward, it seems more than probable that in these spaces ought we to find the internal secretion. In the adult many of these vesicles are normally filled with colloid. Does this colloid represent the internal secretion? That is not yet definitely proven, but it must be either a product of cellular secretion or degeneration, or else possibly a mixture of both. If the colloid as we see it in the normal gland be a product of cellular degeneration, then, of course, this degeneration is a normal process, and if interfered with results in the heaping up of cells as we see it in the hyperplastic thyroids. For this process of colloid production iodin seems to be necessary.

Marine[5] found that on administration of iodin to dogs with hyperplastic thyroids which contain little or no colloid and mostly are iodin free, that the vesicular cellular ingrowths gradually disappeared, being replaced by colloid. In other words, the gland gradually approached the normal aspect. On the other hand, withdrawal of iodin in food to normal dogs caused their thyroids to undergo hyperplasia with complete or almost complete disappearance of colloid.

Thus it would seem that iodin is essential for this process of colloid degeneration of alveolar cells. If there is lack of iodin then the desquamation of vesicular cells with consequent colloid degeneration does not take place, and piling up of cells forming papillomatous vesicular ingrowths will be the result.

If, on the other hand, colloid represents the internal secretion, then how will we explain the paucity of colloid in hyperplastic glands which are supposed to depict an increased activity of the organ? The answer

1. Oliver and Schafer: Journal of Physiology, 1895, xxxiii, 277.
2. Von Cyon: Archiv. für die gesammte. Physiologie, 1895, lxx, 126; 1898, lxxiii, 42.
3. Von Cyon and Oswald: Ibid., 1901, lxxxiii, 199.
4. Furth and Schwartz: Ibid., 1908, cxxiv, 113, 261.
5. Marine, S.: Journal of Infectious Diseases, June, 1907, iv, 417-425.

must be that normally there is an intravesicular storage of colloid, but in hyperplasia the demand on the gland is so great that no storing up is possible, hence lack of intravesicular colloid; or without there being an extra demand on the organ there is an abnormal direct discharge of the secretion into the blood without the ordinary preliminary intravesicular storage, resulting in man in the condition termed hyperthyroidism.

It is said that in the young where the gland is supposed to be of the greatest use, no colloid is found. Here again it might be explained that excessive demand prevents intra-alveolar storage.

It is quite generally believed that it is the colloid that fixes the iodin in the gland, but that is not at all proven. Certainly it is not the colloid that fixes the iodin administered to hyperplastic goiter dogs, glands of which, as a rule, contain no colloid. Furthermore, iodin is held in tissues that contain no colloid, although it must be admitted not in such quantities as in the thyroid.

Then again, the seemingly identical colloid of the pars intermedia of the hypophysis (Simpson and Hunter,[6] Haliburton, Chandler and Sikes,[7] Carlson[8]) has apparently no power of fixing iodin.

Whether iodin is a constituent of the supposed internal secretion or whether it is only a factor in stimulating the gland to proper activity, is not definitely known. That it may be the latter seems to be supported by a vast abundance of clinical evidence.

Excessive iodin administration may bring about greatly increased activity of the thyroid, resulting in "Iodin Basedow" (Kocker[9]).

If the internal secretion is contained in the vesicles, how is it taken up in the system? It must be carried off through either the blood or lymphatics. Hurtle[10] believes that the intravesicular secretion is drained off by minute intercellular canaliculi into the surrounding lymph vessels. Biondi[11] and Langendorff[12] advance the view that, owing to desquamation and degeneration of lining vesicular cells, the follicles become continuous with the peri-vesicular lymph spaces, thus permitting escape of colloid via the lymphatics. These observers found colloid in interfollicular lymph channels.

Renaut agrees with above researchers but suggests that in Graves' disease the internal secretion is thrown directly into the blood, owing to an intervesicular sclerosis obstructing the lymph channels.

Carlson and Woelfel[8] have worked carefully for years on thyroid lymph mostly from dogs, endeavoring to isolate the physiologic important secretion. Their paper, although a record of negative results, is by far the most interesting on the internal secretion of the thyroid. From

6. Simpson and Hunter: Proc. of the Soc. for Exp. Biol. and Med., 1909, vii, 11.
7. Haliburton, Chandler and Sikes: Quar. Jour. of Exp. Phys., 1909, ii, 289.
8. Carlson and Woelfel: Am. Jour. of Phys., xxvi, April 1, 1910.
9. Kocker-Weber, T.: Iod. Basedow, Archiv. für Klin. Chir., Berlin, xcii, No. 4, pp. 913-1215.
10. Hurtle: Archiv. f. d. gesammte Phys., 1894, lvi, 1.
11. Biondi: Berl. Klin. Wchnschr., 1888, 47.
12. Langendorff: Archiv. f. Phys., 1889, Suppl., p. 219.

their observations, they conclude that similar to other secretions the one from the thyroid in all probability is also taken up by the blood.

Carlson advances the highly interesting but improbable supposition that the vesicular cells at first secrete into the vesicle, there storing the supposed internal secretion, which is later absorbed and eliminated outward into the blood, thus furnishing "the only instance in the whole animal kingdom where a supposed physiologic secretion is first eliminated from the cell in one direction, then absorbed by the same cell and eliminated in the opposite direction."

Of course, a great number of theories may be constructed. One might suggest that if the vesicle should contain both colloid and an internal secretion that each may have a different path of absorption. In view of the fact that colloid apparently has been seen in the perivesicular lymphatics it seems possible that this substance might be taken up in the lymph stream, and the supposed internal secretion might reach the system through the blood, but in what manner would, of course, be difficult to explain. Then again the physiologic important secretion might be eliminated outward directly into the blood instead of into the follicle and the colloid be carried off as above by the lymphatics.

In regard to the supposed internal secretion coming from the different types of the gland: does the high columnar cell of the hyperplastic thyroid, the extremely flattened cell in colloid goiter and the cuboidal cell of the normal organ eliminate the same quality of secretion, or is the difference only one of quantity?

A great deal of fruitless (not worthless) work has been expended in an effort to experimentally produce typical exophthalmic goiter in the lower animals. The only effects from thyroid overfeeding seems to have been a slight loss of weight and a transient tachycardia (Furth and Schwartz[13]) and not always even that. It is doubtful whether these results are specific of thyroid feeding. Probably excessive administration of other glandular extracts would result similarly.

Considering the fact that no authentic case of spontaneous Graves' disease has ever been recorded as occurring in the lower animals, it may be somewhat difficult to produce it artificially, especially as the condition is not of an infective or contagious nature.

In order to isolate the specific secretion, more work should be done on man. Blood coming from thyroid veins, particularly in Graves' disease, should be carefully studied chemically, microscopically, and by injection-experiments. Of course, such work could only be carried out where a large amount of clinical material is available, as with the Mayos and Kockers, and probably a few others. It is from these men, aided by competent physiologists, that we may hear something more definite concerning this highly interesting problem.

The symptomatic phenomena associated with thyroid disturbance differs a great deal in man and the lower animals.

13. Furth and Schwartz: Archiv. f. Physiol., 1908, cxxiv, 113, 261.

Thyroidectomy is followed in some by the most grave and permanent symptoms; in others by only temporary disturbance, following which the animal seems as well as ever (Carlson[8]), and again in others, not the slightest change will be noticed. This may probably be due to thyroid having a different function in the various groups of mammals; other organs compensating more or less fully for the loss of thyroid; or presence of nests of thyroid tissue in other parts of the body not yet demonstrated.

Outside of these symptomatic contrasts, man and other mammals also differ in their relation of goiter to sex and geographical distribution, reaction of the test of Hunt,[15] [16] etc. (Carlson, Werelius[14]).

Although the majority of observers agree on a pathognomonic pathologic process in Graves' disease, such men as Kocker, Howard, Langhans and Reinbach deny this.

Shephard and Duval[17] examined fifty cases postoperatively. In quite a number of cases did they find a pathologic picture eminently characteristic of Basedow's disease accompanied by anything whatsoever pointing symptomatically to this disorder. On the other hand, in several cases that exhibited the most marked symptoms of hyperthyroidism, did they find only a simple goiter. I would not be at all surprised if it was shown that quite a number of goiters of girls at puberty would show this supposed characteristic, hyperplasia of exophthalmic goiter. Such histologic pictures would then have to be termed physiologic hyperplasia (Werelius[14]) and would possibly be analogous to some of the hyperplasias we see in the canines.

This process in dogs cannot, it seems to me, be identical with that of Graves' disease in man, unassociated as it is with anything that could possibly suggest that condition.

Marine believes that Graves' disease is only a step in a condition that terminates in myxedema. If that is so, I would like to ask why we have so comparatively many exophthalmic goiters in this country and so extremely few myxedemas? It cannot be that the disease (myxedema) mainly manifests itself in its premyxedematous stage.

Just because of a few reports of myxedema following Graves' disease, it does not follow that exophthalmic goiter is only a stage of this condition. In the cases reported, I suppose the thyroid underwent atrophy, or was the site of a diffuse sclerosis completely destroying its function. Such a process may, of course, supervene on any goiter, simple or otherwise, or even on a normal thyroid, and cannot be looked on as occurring especially in Graves' disease.

Among the numerous etiologic factors of goiter, geographical distribution is undoubtedly one of the more important. For this reason the geologic formation of the various goitrous districts should be more carefully compared with a view of possibly discovering some factor com-

14. Werelius: Surg., Gynec., Obstet., August, 1910, pp. 152-156.
15. Hunt: Jour. Biol. Chem., 1905, i, p. 13; Jour. Am. Med. Assn., 1907, xlix, pp. 240, 1393.
16. Hunt and Seibel: Hyg. Lab. Bull. 47, Wash., 1909.
17. Shephard and Duval: Ann. Surg., July, 1909, vol. i, p. 84.

mon to all. Goitrous districts differ as to the species of mammals affected. In some of these goitrous territories for man I understand no struma is seen among the domestic animals. In Chicago, which is a goitrous territory for dogs (Carlson, Werelius[18]), there are, for instance, few or no cats seen with goiters. Whether this region is goitrous for man it may take centuries to demonstrate.

It is certain that there is an enormous number of goiters among children at puberty. Dr. Thos. Rothstein and I intended to make an extended examination of Chicago school children, but were refused permission. However, in spite of this, we examined a sufficient number to demonstrate to our satisfaction that the number of strumous children here is much greater than anyone would expect; and although the great majority of these goiters probably are physiologic, quite a number are not, and of those that are physiologic quite a number will undoubtedly become pathologic.

As to surgery of the thyroid, the immediate results following thyroidectomy in exophthalmic goiter have certainly been very excellent, when the operation has been performed by the masters. Probably in few other conditions is the outcome so dependent on the man behind the knife. The result in cases handled by inferior men has been, I am afraid, very disastrous, and if true reports were attainable they would furnish a very dark chapter in modern surgery. I earnestly believe that in the near future the less radical operations will almost entirely supplant resection in Graves' disease. The object of any operative procedure in this condition is, of course, to lessen the glandular secretion, and this can often be done as effectively by tying vessels as by resection, and certainly with a great deal less danger. Undoubtedly, many of the fatal results, even in the best hands, might have been averted by using less radical methods.

Then again, we should not forget that Basedow's is a limited disease, and when the condition has spent its force the need of an intact thyroid may be of the greatest necessity, important as the organ is to normal metabolism.

It might be that following this great hyper-activity of the organ, there may come a period of somewhat lessened activity, which, in an intact thyroid, may not manifest itself symptomatically, but in a case in which most of the gland has been removed, the demand on the remaining portion may be too great, resulting in permanent impairment with consequent myxedema.

No line of treatment will, of course, be without mortality; in fact, cases reach stages where no relief is possible.

In a disease such as exophthalmic goiter, that in its severer forms spares no organ, many deaths are due to causes only indirectly connected with the thyroid, and in such cases practically dying from a combination of pathologic changes outside of the thyroid, it is only natural that surgery of this organ (which then probably in many instances has ceased hypersecretion) will not avert but rather hasten the fatal outcome.

18. Jour. Am. Med. Assn., July 17, 1909, liii, 172-178.

ON ACTIVE IMMUNIZATION IN TUBERCULOSIS *

H. J. ACHARD, M.D.
CHICAGO

The specific treatment of tuberculosis has passed through certain phases which appear to be repeated at present in the case of syphilis and its *therapia sterilisans magna*, according to Ehrlich. Announced modestly and conservatively, and without any undue claims by its originator, Robert Koch, it was soon subjected to an improper and undignified newspaper notoriety, and was accepted and employed by the profession with excessive expectations, without a sufficient knowledge and appreciation of the biologic principles involved, was administered with no care whatever in the selection of cases, and in excessive doses. Small wonder that the "new remedy of Koch" was damned almost from the beginning and that the acclaim and enthusiasm with which it had been received were very soon changed to disgust and distrust. Let us take care lest history repeat itself in the case of "606" and let us leave it exclusively in the hands of syphilographers until its possibilities and limitations, its indications and contraindications, its dosage and its dangers are clearly defined. The idea which appears to exist in many minds, that the end of syphilis is in sight, is just as absurd as is the assertion that tuberculosis will be exterminated in thirty to fifty years, and the disappointment is bound to impair the possible benefit derivable from the remedy. Some of the greatest possibilities of progress have suffered and been harmed most through their friends.

We mean by the specific treatment of tuberculosis its etiologic treatment, i. e., its treatment by the aid of the causative virus. Strangely enough, this attempt to drive out the devil by the aid of Beelzebub is surprisingly close to the Hahnemannian *"similia similibus curantur"* and as a matter of fact our homeopathic brothers claim to have prepared the first tuberculin.[1]

Specific treatment may take the form either of active or of passive immunization, the former by means of the various tuberculins and the products of tubercle bacilli, the latter by means of so-called immune sera. Tuberculins and the other preparations used for active immunization (which are usually, but wrongly, also called tuberculins) are either antibacterial or antitoxic and stimulate the formation, in the tuberculous organism, of specific antibodies. They are prepared either from the culture fluid on which tubercle bacilli have grown or from the tubercle bacilli themselves. Sera are obtained from the blood of animals which have been infected with virulent tubercle bacilli. The defensive mechanism in the animal organism leads to the formation of specific antibodies (agglutinins, precipitins, opsonins, etc.) which are demonstrable in the serum. By their direct introduction into a tuberculous organism it had been hoped to counteract the effect of the tuberculous infection. Of the sera I need only say that so far they have not justified our hopes and

* Read before the Chicago Medical Society, Jan. 25, 1911.
1. Wells, G. Harlan: The Hahnemannian Monthly, August, 1910.

expectations. The results obtained by the principal representatives of the kind, the sera of Marmorek and of Maragliano, have been very uncertain and in part unsatisfactory, although truth constrains us to admit that a fair number of favorable reports have been published on the use of Marmorek's serum in local or surgical tuberculosis.

Active immunization is accomplished either by tuberculins or by substances prepared from the bodies of tubercle bacilli. And here I beg leave to differentiate strictly between the two kinds of preparations. Although the "New Remedy" of Koch, introduced in 1890, was at first frequently called "Koch's lymph," it was not and is not a lymph or a serum. The substance known as Koch's old tuberculin, a name first used by Bujwid,[2] was produced from a 5 per cent. glycerin bouillon on which virulent tubercle bacilli had grown for from four to six weeks, by evaporation to one-tenth of its volume and filtered through porcelain to remove the germs. The final product contains from 40 to 50 per cent. of glycerin, which preserves it. For the production of tuberculin old, heat is required, but this does not exceed 70° C. (158° F.) by the method used at the Hoechst Farbwerke.[3] During the process of condensation some of the bacillary proteids are extracted, but they are, at the same time, liable to chemical alterations. It has been shown repeatedly that, in spite of the filtering through porcelain, tuberculin is by no means free from tubercle bacilli, either whole or in fragments, and Dr. Karl von Ruck attributes the immunizing effect obtained from the use of old tuberculin to this fact and to the fact already alluded to that during the condensation to one-tenth of the original amount some of the bacillary proteids are extracted. Wolff-Eisner claims that the endotoxins of the tubercle bacilli present in old tuberculin, which are also substances derived from the bacillary bodies, are responsible for its effect. That such an explanation must be employed appears from the experiments made with 5 per cent. glycerin bouillon, treated in all respects as though it had served as a culture medium and been used for the preparation of tuberculin. The injection of this product caused fever reactions similar to tuberculin but these were in no way characteristic, as are the reactions from tuberculin.[4]

However that may be, we know that tuberculin, consisting principally of tuberculotoxins, is an antitoxic remedy more than an antibacterial one, and this had been insisted on already by Koch in his first publication on the subject.[5]

As you know, the entire absence of a selection in the cases to be treated, the excessive dosage due to the preconceived idea that reactions were desirable, the unreasonable expectations as to its curative power and finally the almost total ignorance of the problem of immunity during the first tuberculin era led to the speedy abandonment of the remedy, to a serious disappointment and disillusion of many and even, especially from French writers, to undignified and unmerited vituperation of Koch.

2. Bujwid, cited by Reeser: Centralbl. f. Bakt., Orig. Bd. 46, No. 1.
3. Remedia "Hoechst," 1910, p. 714. Kolle and Wassermann: Handbuch d. pathogenen Mikroorganismen, 1904, Bd. iv, T. 1, 2, p. 825.
4. Silvio von Ruck: Repr. Amer. Jour. Med. Sc., April, 1909, p. 8 (literature).
5. Robert Koch: Deutsch. med. Wchnschr., 1890, No. 46 a.

The failure of tuberculin, even though in part due to such powerful agencies as the adverse influence of Virchow, was by no means absolute. Koch himself and some of his pupils and friends, notably Goetsch, Carl Spengler, Petruschky among others, persisted in their investigations and experiments, and in 1897 Koch announced his Tuberculin R., i. e., *Tuberkulin Rueckstand* (residue), or "new tuberculin," which was prepared from virulent cultures of tubercle bacilli dried *in vacuo* and finely pulverized in an agate mortar, after which they are treated with physiologic salt solution.

"The pulverized triturated bacilli are ground and treated with physiologic salt solution, centrifugated, and the supernatant, opalescent fluid discarded ("TO"). The residue from this is dried, ground, treated with physiologic salt solution, centrifugated, and the clear supernatant fluid collected and retained. This process is repeated until all the residue is taken up. The clear centrifugates are united and preserved by being treated with glycerin to 20 per cent. Each cubic centimeter of "TR" is standardized so as to represent 10 mg. of the original dried tubercle bacilli."[6]

The discarded solution obtained by the extraction of ground tubercle bacilli, Koch designated as "TO" and he considered it as therapeutically without value.

Koch's demonstration of specific agglutinins or immune substances in the blood serums of such tuberculous persons as had been treated with tuberculin or other bacterial products led, in 1901, to the production of his *Bacillen Emulsion*.[7] He had found that these immune substances were capable of precipitating, *in vitro*, emulsions of ground tubercle bacilli and that this precipitation occurred *particularly* with ground tubercle bacilli. Hence he conceived the idea of employing an emulsion of ground tubercle bacilli for the production of agglutinins (ref. 3, p. 712). Koch's bacillus emulsion differs from tuberculin R chiefly in that the entire bacillus is represented, while the "R" preparation contains only a portion of it, the "TO" being discarded. It has the decided disadvantage that the bacillary fragments are not always held in an absolutely even emulsion, and that it even has been found to contain clumps of tubercle bacilli and fragments, which of course, might produce very serious disturbances on being injected. Its use is not always free from fever reactions and from other undesirable by-effects.

In our country it was first of all, and particularly, Dr. Karl von Ruck of Asheville, N. C., who persisted in the assertion that the idea of a tuberculin treatment was correct in principle and that it only required a proper development in order to establish efficient and non-noxious preparations. Partly alone, partly together with Prof. Edwin Klebs, he spent the time subsequent to his visit to Koch in 1890 in constant investigation and produced in 1896 a *tuberculinum purificatum* which was made with low heat, not above 50 C. (122 F.) and contained an additional amount of specific substances from the bodies of bacilli, obtained by boiling *in vacuo* for thirty days at 50 C.[8]

6. Tuberculin, Mulford's Working Bulletin, No. 2, 4th ed., 1909.
7. Robert Koch: Deutsch. med. Wchnschr., 1901, No. 48.
8. Karl von Ruck: Therap. Gaz., 1896.

The growing certainty that for bacterial immunity only the specific substance of the bacillus was of real value, which had led Koch to the production of tuberculin R in 1897, resulted in the same year in the preparation of von Ruck's watery extract of tubercle bacilli which has been used almost exclusively since then in the Winyah Sanitarium, and to a very great extent by many tuberculosis physicians throughout the country. The process of preparing the watery extract of tubercle bacilli was published in detail in the *Therapeutic Gazette* for June, 1897.[9] One of the important points in it is that the fats and waxes of the bacillary bodies are removed by extraction with sulphuric ether, and as some of the extractives are, according to Arloing, responsible for the occurrence of caseation, their removal is a signal advance. The ideal preparation would be one which contained all the substances of the bacillary bodies which can stimulate the production of antibodies, and also an excess of those extractives which are said to stimulate fibrosis, while the caseating extractives are removed.

I have considered it a simple duty to historical and literary accuracy to call attention to the position which von Ruck has taken regarding tuberculin, because it is usually asserted that Trudeau and Pottenger were the foremost supporters of the specific treatment of tuberculosis in the United States. With all due and proper respect for the great accomplishments of Dr. Trudeau and for the excellent work of Dr. Pottenger, my literary researches have shown that as late as 1901, in a paper[10] read before the New York Academy of Medicine, December 19, Trudeau was extremely lukewarm, to say the least, in his support of tuberculin. The best that he had to say for it then was that he had observed no bad effects, that its sphere was limited to cases amenable to, but preferably treated by climate and hygienic methods. Later, to be sure, Trudeau assumed a more positive position in regard to active immunization in tuberculosis. As to Dr. Pottenger, I am fully aware of the good work he has done and of the enthusiastic support he has given to various specific tuberculous preparations, but nevertheless von Ruck anticipated him in this, since Pottenger's writings are all later than the earlier publications of von Ruck.

It has been asserted that the many modifications of tuberculin which have been prepared, lauded and partly forgotten, are a proof of the unsatisfactory results obtained from Koch's own products and that they speak against the wisdom of attempting active immunization in tuberculosis. I do not admit this. The theoretical possibility of active immunity being admitted it remained to find a remedy which should enable us to produce both an antitoxic and an antibacterial immunity, and of the two the latter appears to me to be the more important one. It has been sufficiently demonstrated in the last ten years that its production is possible, that the administration of preparations from the bacillary bodies stimulates the formation of specific antibacterial substances, and that the best possible clinical results are by this means not only obtained in a shorter time than

9. Idem: Therap. Gaz., June, 1897.
10. Trudeau, Ed.: Pediatrics, 1902, xiii, 184.

by general methods alone, but that they are more permanent. This was definitely proved by investigations and inquiries published by Pottenger[11] and by von Ruck[12] among others.

One of the first modifications of tuberculin was that of Denys. His *bouillon filtré* is simply the uncondensed culture bouillon on which tubercle bacilli have grown, filtered and preserved. Koch himself had in 1891 given a like preparation to Carl Spengler for investigation and it is known as Spengler's A. T. O.

Other modifications are the tuberculocidine of Klebs, oxytuberculine of Hirschfelder, the tuberculins of Weyl, Vesely, de Schweinitz and Dorset, Béraneck.

The various preparations of Spengler were produced in accordance with his well-known idea of the duality as to infection of pulmonary tuberculosis, the one or the other type usually having the preponderance. He employs the human tuberculin for bovine infection, the bovine tuberculin for human infection, and mixed tuberculins for mixed infection. Von Behring's preparations are, in greater part, secret and therefore need not concern us here. He attempted more particularly a protective immunization against tuberculosis, and his remedies have, to some extent, received the support of veterinarians abroad.

Time does not permit me to enumerate and describe all the different modifications of tuberculin, nor is it necessary, since my principal purpose is not so much to describe, as to assist in popularizing the means for active immunization in tuberculosis, and to show the advantages from their use.

During the last few years there appears to have occurred, in many places, a return to the old tuberculin, possibly owing to the decided support of Bandelier and Roepke, whose excellent text-book has seen five editions in the space of four years. Tuberculin old is made, in Germany, especially by the Farbwerke vorm. Meister Lucius and Bruening in Hoechst a/M; and by Ruete-Enoch, Berlin. In this country the H. K. Mulford Co., Parke, Davis & Co., Alexander, the Bacterio-Therapeutic Laboratory, Asheville, N. C., prepare not only tuberculin but also tuberculin R., bacillus emulsion and Denys' *bouillon filtré*, while the last named laboratories make, in addition, the watery extract of tubercle bacilli (von Ruck).

Before the International Tuberculosis Congress, Washington, 1908, Gabrilowitsch,[13] the physician-in-chief of the Imperial Sanitarium for Tuberculosis at Halila, Finland, reported on a modification of the old tuberculin for which he claimed many advantages. Obtained exactly like Koch's old tuberculin, it is further subjected to successive treatment with alcohol, ether, chloroform, xylol, so that not only the fever-producing deutero albumose was removed from the tuberculin, but also other substances which, if not exactly harmful, as Koch had already shown, in any event can do no good to patients who are sufficiently intoxicated by the disease itself and can therefore only benefit from the non-introduction of foreign, even if "indifferent" (?) substances. Gabrilowitsch's tuberculin,

11. Pottenger, F. M.: The Diag. and Treat. of Pulm. Tuberc., New York, 1908.
12. Carl and Silvio von Ruck: Reports from the Winyah Sanitarium, Asheville, N. C., published 1907 and 1909.
13. Gabrilowitsch: Tr. VI Internat. Tuberc. Cong., Washington, 1908.

or "tuberculinum purum," also called *Endotin*, is claimed to possess all the curative and none of the harmful properties of old tuberculin. Especially does it not produce any severe reactions. It is marketed in this country by Morgenstern & Co., New York, and has many excellent results to its credit. I understand that Dr. Leigh and Dr. Tice have used it and I have seen very pleasing results from its employment.

It would lead me too far to enter into the clinical aspects of specific treatment of tuberculosis, and I only wish to quote to you a few instances of what can be accomplished by its aid.

Langenbuch and Wolff[14] reported on ninety-nine cases of tuberculosis treated with tuberculin and ninety-nine without. Of the first group, thirty-three were cured and forty improved, that is 73 per cent. distinctly benefited. Of the latter group nine were cured and forty-five improved, making a percentage of 54 per cent. that were benefited.

Or 589 first-stage cases reported in literature, according to Pottenger[15] and treated with tuberculin and allied products, 496, 84.2 per cent., were apparently cured, while of 611 sanatorium cases in the first stage, treated without tuberculin, but having all the advantages of sanatorium treatment, 391, or 64 per cent., were apparently cured.

A very instructive tabulation is presented in the last report from the Winyah Sanatorium.[16] Of 782 cases treated from 1888 to 1908 by general methods alone, that is, without specific remedies, there were discharged as apparently recovered 90, or 11.9 per cent., and as improved 238, or 30.5 per cent., giving positive results in 328 or 42.4 per cent. Of 723 cases which, in addition to the usual methods, were treated with tuberculin, or some of its modifications (taking tuberculin in its strictly literal sense) there were discharged as apparently recovered 266, or 36.8 per cent., and as improved, 310, or 42.8 per cent., giving positive results in 567, or 79.6 per cent. Of 1,503 cases treated with the watery extract of tubercle bacilli which, being a bacterial product, as we have seen, confers an antibacterial immunity, there were discharged as apparently recovered 834, or 55.5 per cent., and as improved 508, or 33.8 per cent., giving positive results in 89.3 per cent. And to show that this last remedy is not only of use in the hands of its discoverer, the authors present a collective report on the results of over 100 other physicians who had likewise employed the watery extract, both in institutions and in general practice. Of 2,183 cases, these physicians reported as apparently recovered 1,098, or 50.3 per cent., and as improved, 639, or 29.4 per cent., giving positive results in 1,737, or 79.7 per cent.

An interesting point is the permanency of results after general methods of treatment only, and after active immunization in addition to the general methods.

Inquiries to determine the permanency of results from general methods including climatic treatment have shown[12] that of all cases discharged as improved or apparently cured, there were less than 10 per cent. that

14. Langenbuch and Wolff: Deutsch. med. Wchnschr., 1891, p. 935, cf. Pottenger, loc cit, p. 171.
15. Pottenger, loc cit, p. 172.
16. K. and S. von Ruck: Loc cit, 1909.

had not seriously relapsed, or succumbed to their disease in the course of from two to five years after discharge, and the patients affected by this inquiry belonged very largely to the well-to-do classes who had the advantage of ample means in their search after health.

On the other hand, an inquiry made by the von Rucks (*loc. cit.*, p. 12) on patients treated with the watery extract of tubercle bacilli, between 1897 and 1904 and responded to by 602 patients, developed the remarkable fact that of 400 patients who had been discharged from two to ten years previously as apparently cured, there had continued without relapse 320 or 80 per cent.

Of 202 patients who had been discharged as improved, 94 had continued without relapse, making 46.5 per cent.

Gentlemen, the employment of tuberculin, so-called, or of specific remedies in addition to the accepted general climatic, hygienic and dietetic treatment in tuberculosis is no longer *sub judice*. It is firmly established and immeasurably superior to the general methods alone. According to Bandelier and Roepke,[17] tuberculin treatment and all methods of active immunization have justly been classed among the natural methods of treatment. The substance introduced into the tuberculous organism is not heterogenic. It assists in the formation of products of reaction (antibodies) which the body cannot, unaided, produce in sufficient amount. Specific treatment imitates the processes occurring in spontaneous healing and assists it. It has been shown that favorable cases of pulmonary tuberculosis, but not treated specifically, have in their serum the same substances capable of neutralizing tuberculin as cases treated specifically. Thus specific treatment simply emphasizes and increases the favorable process by stimulating the formation of these substances.

But do not imagine that specific treatment is easy. The treatment of phthisis does not now, and probably never will resolve itself into so simple a procedure as the daily hypodermic injection of a remedy, no matter how valuable it may be, while everything else is left to chance and accident. It requires the most careful and painstaking attention to detail, the closest study of, and watching over, your patients and a constant control of their progress. But it affords a means of leading our patients back to health more rapidly and of benefiting many cases which would otherwise be hopeless.

Although I am firmly convinced of the importance and value of active immunization in addition to the generally accepted means of treating tuberculosis, I would yet warn you most emphatically against adopting these means and methods without a careful study of the questions in bacteriology, biology, immunity, which are involved. Many points turn up in the course of specific treatment which sometimes puzzle the trained specialist, and which might prove serious to the physician who has not learned the method from a master. By all means use specific remedies in tuberculosis, but not until you have learned how. The remedies are like two-edged swords and, in the hands of the inexperienced, are apt to do far more harm than good.

17. Bandelier and Roepke: Lehrb. der spezif. Diag. und Therapie der Tuberkulose, Würzburg, 5te Auflage, 1911.

There are a great many important points in the method of administration, in the making up of solutions, etc., which must be studied, and on which more or less information is given, not only in journal articles and in text-books on the subject, but also in the publications which the various manufacturing chemists who market tuberculin and allied products have printed for the convenience of the profession. These latter "working bulletins" present excellent abstracts from the literature and are very useful. There is a question about the advisability of putting up serial dilutions for the convenience of the physician. In sanatoria and large institutions where many patients are treated, such serial dilutions are of considerable convenience, but in the case of tuberculin, they have the disadvantage of not keeping very well, if weaker than 10 per cent., and it will probably be found best to make up the desired solution at the time of administration. This is very easily accomplished. Some manufacturers furnish separate doses of the dilutions required in sealed ampoules which, if properly made, of course will maintain their efficiency and intactness, but it is not wise to treat patients by schedule, and for this reason such schematic courses of treatment must always be employed *mutatis mutandis*.

NOTE.—I wish to express my sincere thanks to Messrs. Parke, Davis & Co., The H. K. Mulford Co., to Dr. H. M. Alexander & Co., Messrs. Morgenstern & Co., and to Dr. Karl von Ruck, for the courtesy with which they met my request for aid in preparing the demonstration of tubercle bacillus products employed for active immunization in tuberculosis. I should have liked to include the products of the Hoechst Farbwerke in the exhibit, but was informed by their agents, Victor Koechl & Co., that they could not loan me any specimens.

602 Reliance Building.

BISULPHATE OF QUININ IN THE TREATMENT OF ACUTE AND SUB-ACUTE GONORRHEAL URETHRITIS

ALBERT E. MOWRY, M.D.

Clinical Assistant Genito-Urinary Surgery, Northwestern University Medical School; Attending Genito-Urinary Surgeon to Provident Hospital

CHICAGO

A male patient with a rather severe type of acute gonorrheal urethritis presented himself about ten weeks ago for treatment with the usual tale of severe pain at the time of and following the act of urination. To relieve the pain thus suffered I knew of no safe method of procedure to procure quick results. I had a bottle of quinin and urea hydrochlorid tablets that I had been using as a local anesthetic and the thought occurred to me that inasmuch as these tablets were unlike cocain in being practically free from any dangerous results they might afford the case a certain amount of relief and so I made a solution of thirty of these tablets to a gallon of warm water and proceeded to give the patient an anterior irrigation. The patient called me up on the telephone in three or four hours and informed me that my treatment was a wonder as he

had urinated without suffering pain and that it was the first time that the act of urination had been a pleasure for a week. On his appearance next day he reported considerable permanency to the relief afforded by the irrigation the day before and also said the amount of discharge had materially lessened. The thought occurred to me, why wouldn't it be a good treatment to irrigate cases of acute gonorrheal urethritis with a solution of bisulphate of quinin, as it is a powerful germicide and it does not take much of a germicide to kill the gonococci if the solution can only come in contact with the germs; besides, quinin has a certain tonic action to mucous surfaces, and the last and most important property is its action in a greater or less degree as a local anesthetic.

I procured a large quantity of the bisulphate of quinin and determined to give it a thorough trial. I have now used it for ten weeks and have used it in fourteen cases of acute gonorrheal urethritis and my results have been gratifying in most of the cases. I have not secured the results that Valentine claimed for permanganate of potash irrigations, namely, 90 per cent. of acute gonorrheal urethritis cured in fourteen days, but I can safely say 50 per cent. have apparently been cured in the course of two weeks and this result is far better than I have obtained previously. A word as to permanganate irrigations. I believe the use of permanganate solutions produces chemical ulcerations of the urethral mucosa, thus lowering the normal resistance.

Too often my urethroscope has shown these conditions present after a course of permanganate irrigations, even though the solutions used have been weak. Simply think how often the skin on our fingers has become fissured when we hold the irrigator in place and the fingers come in contact with the return flow of the solution.

In using the solution of bisulphate of quinin for irrigation purposes I begin with a solution of 1 to 3,000 and gradually increase the strength to 1 to 1,500. I use the solution as warm as the patient can comfortably bear, with care always taken to avoid mechanical irritation to the meatus by the irrigating tip, and care always taken to see that the flow is continuous by not putting on too much pressure and still put on enough pressure to insure the solution getting well into the urethra. I have also used the above described solutions in two cases of cystitis 1 to 5,000 with good results, and in four cases of chronic posterior urethritis with a fair result. In the later cases I used the solution 1 to 400 in form of an instillation, using the Ultzman deep urethral syringe. As an anterior injection for the patient's own use I make the strength of the solution 1 in 200 to 1 in 1,000.

Internally, I administer oil of sandalwood capsules 10 drops in each capsule given about four times a day if the patient tolerates them well. I am fully convinced that in this drug we have the best there is in the way of internal treatment. From my own experience I should say do not administer hexamethylenetetramin in cases of this character as I have not seen any benefits from its use and I have seen cases where I am certain the formalin irritated the kidneys as well as urethra and added to the complications.

The reason the bisulphate of quinin is used instead of the ordinary sulphate of quinin is the fact that the former is freely soluble in water while the latter is not.

I presume that bisulphate of quinin has been used for this same purpose in the past, as almost every drug in use has at one time or another been used in one form or another as a cure for gonorrheal urethritis; but if such use has been suggested previously I am not aware of the fact.

I do not wish to be understood as having made any great stride in the treatment of acute gonorrheal urethritis, but our treatment has advanced so little in the past that any advance is a real advance.

What I have suggested as to treatment of acute conditions of course does not apply to chronic cases, for the old adage, "Man usually knows when they begin, but God alone knows when it will end," is surely true of that class of cases. When can physicians advise men with chronic cases of this nature to marry is another terrible uncertainty. One thing we can advise our patients, and that is to urinate just as they retire and cause the sexual act to happen just after this and not wait till morning, when there is a great possibility of some pus having exuded from some of the many follicles during the night and thus making the possibility of infection to the wife much greater.

I wish to thank Prof. L. E. Schmidt and Dr. V. D. Lespinasse of the genito-urinary department for their suggestions as to the local anesthetic effect of quinin, as it was from their work that I got my ideas as suggested.

THE TREATMENT OF SYPHILIS; A RETROSPECT AND A PROSPECT *

E. A. FISCHKIN, M.D.

Professor and Head of the Department of Dermatology and Syphilology, Chicago College of Medicine and Surgery (Valparaiso University)

CHICAGO

Four great and epoch-making discoveries have in recent years changed and enriched our knowledge of syphilis. Following each other in rapid succession and based each on the other they have brought out new facts which our ancestors did not dream of.

1. The discovery of the *Spirochæta pallida* by Schaudinn.

2. The discovery of Metchnikoff and Roux and later of Neisser and others that syphilis can be communicated to apes and even to lower species (rabbits) thus giving the possibility to study experimentally the various pathologic and therapeutic problems.

3. The introduction of serodiagnosis by Wassermann and

4. The introduction of arsenobenzol into the treatment of syphilis by Ehrlich.

What have we gained by these great achievements in regard to treatment?

---

* Read before the Northwest Branch of the Chicago Medical Society, April 7, 1911.

1. It was proved that treatment must be of a chemical nature (chemotherapy of spirillosis by Ehrlich) abandoning the idea of a serumtherapy and of artificial or natural immunization.

2. It has overthrown the method of starting treatment only with the appearance of secondaries, now that we have the possibility of demonstrating the spirochetes in the primary sore.

3. It gave us the possibility of recognizing and treating latent syphilis through the Wassermann test in cases where there are no clinical symptoms present.

4. It gave us the means by a positive test to find out the inefficiency of preceded treatment in each case and the necessity of repeating treatment in each case irrespective of the old standard of intermittent treatment. These are now the accepted dogmas propounded by most of syphilologists. They lead to the following conclusions in regard to therapeutic action: Start treatment as soon as spirochetes are found in the chancre and continue till the Wassermann becomes negative, that is, go on with increased doses of mercury or arsenic and for indefinite time till the complement in the blood is no more fixed, which alone will be a positive sign that the virus of syphilis, the spirochetes, are killed and forever.

In conformity with these conceptions we are taught to destroy the chancre by excision or whatever means possible, and some go even farther and demand the extirpation of all the inguinal glands and packing of the wounds with mercurial or arsenical preparations, followed by the administration of salvarsan as the best spirocheticide, preferably by intravenous injection, as long as a Wassermann test will show a positive reaction.

This is usually the stand taken by the youngest enthusiasts in modern syphilology. Dogmatic expositions of this kind are mostly preceding or following the uniform publications on the use of salvarsan which are now crowding the medical journals.

Let me therefore start with the latter and give my experience with salvarsan. I regret to say that this experience is limited, more limited perhaps than the experience of many here present.

CASE 1.—Woman, aged 29 years. Infection seven years ago. Had several courses of inunctions and injection treatment. Gummatous lesions appeared eight months ago on elbow and leg. Some healed up under potassium iodid. Last five months ulcerations of palate, one ulcer in middle of soft palate perforated four weeks ago. Patient is distressed in taking food, liquids passing through nasal cavity.

Salvarsan injection February 21. Healing of perforation practically in four days. The gummatous ulcers of the skin began to crust and dry on the second day, were healed in a week. Intermuscular injection into the glutei of 0.5 salvarsan, neutral solution; comparatively slight after effects.

CASE 2.—(Dr. Halvor C. Hanson.) A man, aged about 32 years. Infection three years ago. Had internal treatment of protoiodid pills. Dr. Hanson consulted me about January for persistent mouth lesion of that patient. In view of the apparently insufficient preceding treatment I advised a thorough injection treatment. Eighteen intermuscular injections of 1/6 to 1/4 of mercury cyanid solution was without effect. We therefore decided to use salvarsan and gave him an

intermuscular injection four weeks ago. When patient left the hospital one week after injection the ulcers were not all healed. Dr. Hanson soon noticed a sequester of the bone. On removal, the ulcers have healed quickly.

CASE 3.—(Dr. Julian B. Beck.) Patient, aged 38 years. Infection in 1897. Secondaries disappeared after a course of injection treatment. In 1903 patient lost his *potentia coeundi;* in 1904 paresis of left leg; in 1907 lost control of sphincter vesicæ. Took mercury and potassium iodid without effect.

Salvarsan injection Dec. 28, 1910. Eighteen hours after injection patient gained perfect control of his sphincter vesicæ, had voluntary micturition for eight days, after which the dripping of the urine came back again. Two days after his injection patient has sexual desire and regained perfectly his *potentia coeundi;* his gait of walking improved considerably. On account of the recurrence of the sphincter trouble, a second salvarsan injection was made February 8; regain of sphincter control for two weeks, after which incontinence returned, gait of walking improved still more and his sexual potency is now perfectly normal.

Complications: Severe cystitis after both injections for eight days.

CASE 4.—Patient, aged 42 years. Infection sixteen years ago. Inunction treatment at that time. Free from symptoms till October, 1909, when gummatous lesions appeared around right elbow. Mercury and potassium iodid without avail. Salvarsan injection January 6. Perfect healing of ulcers twelve days after injection. Severe pain in legs for two days and muscular weakness for two weeks.

CASE 5 (Dr. Beck).—Patient, aged 23 years. Primary sore Dec. 10, 1910, healed in two weeks. Roseola and mucous patches appeared with accompanied cerebral and articular pain. February 25, injection of a neutral solution of salvarsan. Headache and pain in joints disappeared eight hours after injection, roseola disappeared in two days and mucous patches in four days.

CASE 6.—Woman, aged 25 years. Infection six years ago. Repeated relapses of syphilitic eruption in quite malignant form, in spite of antisyphilitic mercurial treatment. The last attack consisted in an ulcerating tubercular syphilide of the forehead and ecthyma of the extremities. Salvarsan (0.5) injection February 10. Clearing up of the lesions in two weeks.

That the discovery of Ehrlich is a great step in advance of our means to cure syphilis, nobody will deny; that salvarsan displays magical effects in most cases is now the experience of practically all physicians who have tried the new remedy. That all the latest discoveries have enriched our knowledge, our understanding of the intimate nature of the syphilitic process and our ability to diagnose and control the disease is now a matter of common knowledge. Still the question arises in the conservative mind: Shall we follow the whole length of the new way of treatment which, as I have pointed out in the beginning of my remarks, are now laid down by deductions from these modern discoveries? Are not on close analysis some of these new truths but old doctrines which have been taught generations ago and found wanting?

To start with the initial lesion. It appeals to reason and harmonizes with our new conception of syphilis that the destruction of the chancre will obliterate the source of the first colonization of the spirochetes and may prevent constitutional infection, and that, as it is argued now, if we do not destroy the source of infection completely, we can probably attenuate the disease by diminishing the number of germs. But will it? Did not we reason in this same direction long before we knew of the existence of spirochetes and were not then all attempts at the abortion or

suppression treatment of syphilis futile? Read the latest work of Fournier, undoubtedly one of the greatest syphilologists of our time, and see to what negative conclusions he comes. He quotes cases where not only indurated chancres but abrasions of the penis have been excised as early as twenty-four hours after infection and the result was constitutional syphilis. In excised chancres from one day to two weeks after their formation, the chancre either reappeared on the sore or secondaries followed without it in due time. In the case of Professor Taylor extensive excision of a chancre of only twelve hours' date was followed on the twentieth day by adenopathy and on the fifty-second day by secondary syphilis. And how meager are the results of the very latest experiments. In the last number of Pick's *Archiv* are published by Dr. Grünfeld the results of the Allegemeine Poliklinik in Vienna. Of forty-six cases treated by preventive methods, that is excision of the chancre and early mercurial treatment, chiefly injections of ol. ciner., nine have not developed constitutional symptoms, but of these only four have been over one year in observation, the other five only two to five months. An old truism has again been substantiated by the new science. Animal experimentation has shown that twenty-four hours after inoculation, constitutional syphilis can no more be prevented. Metchnikoff's 30 per cent. calomel ointment is effective only within twenty hours after inoculation. Neisser has checked constitutional syphilis in apes by excision of the chancre only when done not later than six hours after inoculation.

I will admit that even an occasional success justifies the same attempt in every case where excision is possible; but I want to call to your attention that it is neither new, nor have the results changed since the discovery of the spirochetes. The result is still more than doubtful.

One great progress in the treatment of syphilis was stimulated by the discovery of the spirochete, and that is the early recognition and the early so-called preventive treatment of the disease. The theory of waiting for the appearance of secondaries is now quite universally abandoned, though great men, like Zeissl, Kaposi, Douterelepont have advocated it. Their reasons were: early relapses, atypical course, early mouth and throat symptoms, weakening of the effects of mercury when started before the appearance of secondaries. Even now, in the light of the latest discoveries, Blaschko is opposed to preventive treatment on the ground that the early killing off of the spirochetes will prevent the formation in the blood of protective antibodies. The tendency to early treatment is therefore not new. Fournier and Neisser and other great men have all the time demanded the commencement of treatment as soon as the disease has been definitely established and they have confirmed these facts: first, that syphilis treated from the commencement generally shows itself amenable to treatment, is benign in actual symptoms and relatively less severe as regards later manifestations; and second, that on the contrary syphilis treated at a later period is generally more rebellious to therapeutic agents, more prolific in lesions and in relapses and on the whole less curable and more dangerous, a fact which Neisser has lately demonstrated with his experiments on anthropoid apes in Batavia.

Shall we take the Wassermann test as a guide in our handling of cases? Shall we rely on the laboratory only and look to its positive or negative findings? I am afraid to tire you by repeating all that has been written and that you have heard for and against it. We discussed the very same subject sufficiently some time ago, but I must again say that, like the man from Missouri, I cannot follow the Wassermann test before it is shown to me in its visible working, before I know what it really means. Is it a specific test? But its reaction is not confined to syphilis only. It gives the same finding in leprosy, scarlet fever and other diseases. Admitting that leprosy or scarlatina are easily excluded in each case, and that we can ascertain syphilis *per exclusionem*, does it give a measure for the severity of the infection, does it correspond to the gravity of the disease, to the number of microorganisms, of which, we must assume, the disease and its symptoms are an expression? It does not. Cases with florid exanthemata or ulcerated gummata may give a negative reaction, and a latent syphilis without any clinical symptoms a positive reaction. The most constant positive reaction is found in parasyphilis, in which we must assume that the living spirochetes are no more present. We are told that the reaction, that is the deflection of the complement and the retardation of hemolysis, is the reaction of two quantities, the antigen and the antibodies, of which each can be detected with mathematical precision if the other is given, as in an algebraic equation. But are they mathematical quantities? Are they not rather imaginary quantities? Is the reaction the result of an effect of a toxin on an antitoxin, of the antigen on the antibodies? It is not. Instead of toxins (spirochetes from syphilitic liver, etc.), we get the same reaction with an extract of a human heart which has never contained spirochetes or with chemical substances. Now in the last number of Unna's *Monatshefte*, the Wassermann test is reported to give a positive reaction in psoriasis. Of twenty-five cases twenty-three gave a positive, though weak reaction.

Where is the specificity then? How can you base on it your specific treatment? Now it is a fact that most syphilitics, some 80 per cent. of all cases or more, show the reaction; but we know not its nature. Shall we for the sake of this as yet little understood new phenomenon overthrow all our methods of treatment based on rich experience of generations? And how shall we be guided by it? All agree that a negative reaction does not say anything, it can again become positive in a short time. Can under these circumstances a negative Wassermann serve as a guide where guidance is necessary, that is in deciding the advisability of marriage? Again, what conclusions can be drawn from a positive Wassermann without clinical symptoms? Shall we always pour mercury into the patients as soon as a positive reaction appears? Will that not mean deliberate oversaturation and intoxication of our patients? And will not a positive test after a completion of a thorough antisyphilitic treatment drive the patient crazy? For if anything is capable of producing psychopathics a persistent positive Wassermann will do it.

As to the fourth discovery in the field of syphilis, the arsenotherapy, and especially the salvarsan treatment of Ehrlich. From what we already know of this new remedy, from the reports which came from all

over the world of tens of thousands of cases, from the surprising experience every one of us had in the use of salvarsan, we can without hesitation proclaim Ehrlich one of the greatest benefactors of mankind and salvarsan one of the most marvelous remedies offered to the medical profession. The action of the remedy on the symptoms of syphilis is undoubtedly superior to that of mercury. In a large variety of conditions, in many phases of the disease, in the primary as well as in the secondary and tertiary, in ulcerations of the mucous membranes, especially in mouth and throat lesions, in hereditary syphilis of babies, in malignant syphilis, it works much quicker than mercury and often like magic. These are now established facts. Symptomatically it is superior to mercury. Is it also radically superior? Does it cure not only the symptoms of syphilis but syphilis itself more readily than mercury?

Two factors, besides the great scientific authority of Ehrlich, were instrumental in arousing the enthusiasm of the world in regard to "606," first, the claim of Ehrlich that the preparation, in the form as he offered it, is not poisonous, or using his formula, it is "parasito-tropic" and not "organo-tropic," and, second, the extremely fascinating idea of Ehrlich of a "therapia sterilisans magna," an idea which suggested the possibility of curing the disease at one stroke and of giving up mercury altogether, the specific remedy which was our only reliance for centuries. Both of these claims are now found to have been premature and are seemingly abandoned by Ehrlich himself. It has been shown that "606" has very unpleasant, often dangerous effects, and it has been found, even in the comparatively short time of observation, that even high doses of salvarsan do not protect from relapses, that it does not cure the disease.

Wechselmann, an enthusiastic supporter of "606," saw three relapses; Schreiber and Hoppe, ten; Gerone and Huggenberg saw five relapses within seven weeks after a rapid clearing up of lesions. Neisser saw five relapses. Kromayer, Braende and Klingenstein saw in twenty-seven cases five relapses two to three weeks after the disappearance of symptoms. Herxheimer, thirty-three relapses in 789 cases; Linser, four in eighty; Bettman, eight in eighty-seven; Saalfeld, five in thirty-six; Lederman, six in fifty-two. Gerone reports twenty-two relapses in seventy-one cases which he observed within three months. Matzenauer eight in 126 cases; Oppenheim speaks of frequent relapses in secondary syphilis, doubting even the advisability of using "606" in these cases. Similar reports are made by Rille, Bering, Stern, Grouven, Joseph and many others. Cases of absolute failure are also reported, where salvarsan remained without any effect whatever. Bering counts five such cases among sixty-four treated, later on, twenty-five among 211 cases, that is 12 per cent. Pinkus reported two cases, Scholz three cases, Stern eight cases among eighty treated. Welander reports eleven relapses and five absolute failures in forty-six cases.

Is salvarsan so absolutely harmless as to become the standard remedy against syphilis in every case appealing to us for treatment? Aside from the elevation of temperature, pain, nausea, vertigo, tachycardia and different toxic erythemata which are mostly of a transient nature and which

pass away in a few days, cases have been reported where more serious and more lasting effects have been observed. Hoffman has observed dilatation of the right ventricle and systolic murmurs in two cases. Renault severe congestion of the lungs with hemorrhagic sputum. Bering, Schlessinger, Gerone, Finger and others report albuminuria and casts in the urine. Pick saw retentio urinæ, a symptom frequently seen by others, also symptoms from the alimentary tract, tenesmus, diarrhea, etc., quite frequently cystitis, dysuria and hematuria. Reports have been made of the distinct neurotropic arsenical action on the optic and acoustic nerves, of which the reports of Finger and Bushke have aroused general interest and discussion. They report paresis of the oculomotorius and levator palpebræ, paralysis of the abducens and, what is more, neuritis and even atrophy of the optic nerve, also deafness and other ear disturbances in consequence of salvarsan injections. At the place of injection deep necrosis of tissue has been observed. Finally deaths due to salvarsan poisoning are reported. Ehrlich himself speaks of only twelve deaths in connection with salvarsan, while from France the reports show larger figures. Hallopeau mentions sixteen, Gautier eighteen cases. In the psychiatric clinic in Halle five cases of death are recorded among thirty-five cases of paralysis, tabes, cerebral syphilis, etc., treated with salvarsan, and they put the fatal results to the credit of arsenical poisoning.

Shall we now in the face of all these reports still continue our unbounded enthusiasm about salvarsan and proclaim it the only specific in the treatment of syphilis to the exclusion of mercury? Shall we join the chorus of all those who surround the triumphal chariot of Ehrlich with the cry salvarsan is the remedy and we are its new prophets?

Have we a reason to abandon all the experience of the past accumulated for centuries for a new dogma which is not yet understood? Shall we relegate mercury to the junk shop? Whoever has read Hutchinson's latest work on syphilis and whoever knows to appreciate that Hutchinson is now the oldest and most experienced syphilologist, a man with a matchless faculty of observation and with the greatest opportunities of doing so in the largest center of civilization, cannot help to be impressed by his statement that he in the long life of his very extensive practice succeeded in curing syphilis by mercury and again he says: "I wish to reiterate in the most explicit terms, as a result of long experience, that everything that mercury can do can be conveniently effected by the small-dose gray powder pill." What a vast distance from the 1-grain, gray powder pill to the 0.6 or 1.2 intravenous salvarsan injection! Have we run this long distance to the benefit of our patients? Even admitting the fact, which cannot be denied, that salvarsan has greater symptomatic curative powers, how often are we confronted with such symptoms which require those powers? And as to the exterminating power of arsenic, it has not proved yet that it is greater than that of mercury. Let us consider for a moment, what is the therapeutic action of mercury? How does it exert its influence in the healing process of syphilis?

A very interesting study was undertaken in reply to this question in Lesser's Klinik in Berlin and published by Neuber in the last issue of Pick's *Archiv*.

It is now an established fact that the human organism contains and produces defensive substances in its fight against invading microorganisms (amboceptors, agglutinins, opsonins, precipitins). These substances are the main force in the process of healing and immunization. They are, according to accepted views (Ehrlich), preexisting in the human body and increased under the stimulus of the invading microorganisms. The source of their production are in all probability the leukocytes, which according to Metchnikoff serve primarily the purpose of defense through phagocytosis. Leukocytosis is therefore a defensive process of Nature and hyperleukocytosis the curative power of the organism, on which process a number of therapeutic measures are now based (Bier's hyperemia). Jarrish painted the skin of syphilitics with turpentine for the purpose of producing hyperemia, Stern administered nucleinic acid internally to produce hyperleukocytosis and both reported favorable results. Neuber has by a series of very ingenious experiments investigated the relation of the leukocytes and the antibodies by counting the first and measuring the complement during the administration of different forms of mercury. It is a very interesting study, because we were still lacking a perfect conception of the antiluetic action of mercury. It surely does not kill the spirochetes. Neisser's experiments on apes have shown that only a very concentrated solution of mercury, by far in excess of human tolerance, is capable of killing spirochetes. Tappeiner says there is no remedy which, introduced into the body, would kill the microorganisms without poisoning the human body itself. The antiluetic effect of mercury must therefore consist in the increased stimulation of the leukocytes and other antibody-producing cells to the production of these defensive substances. The effect of mercury on syphilis must therefore be regarded not as directly destructive on the spirochetes, but constructive on the leukocytes, stimulating to new energies. Indeed, they have found under the stimulation of mercurial treatment an increased leukocytosis and an increase in the complement of the patient's blood.

Another experiment explains the economy of mercury in its action on syphilis. Shulz (Pharmakotherapy) made the following experiment: yeast produces carbonic acid; from the increased or depressed amount of fermentation we may judge as to increased or depressed energies of the yeast cells, whose function it is to produce carbonic acid gas. Shulz has shown that a solution of 0.1 per cent. of sublimate kills the yeast cell, a solution of 0.01 per cent. suppresses the fermentation and a dilution of 1 to 700,000, on the contrary, stimulates and increases the formation of carbonic acid to a very large extent.

This permits an insight into the working of mercurial treatment and explains many phases in the history of mercurial treatment; it explains why the large doses (salivation) of the previous centuries have given such unsatisfactory results and we comprehend the therapeutic mechanism of Hutchinson's method and the mode of action of his small dose pill.

Summarizing now my considerations of the practical value of the new achievements in the treatment of syphilis, I would say:

1. With the great help of the spirochete finding in the early stages of chancre, it has advanced our views by demonstrating the need of early

constitutional treatment. As to the excision of the chancre we may hardly expect better results now than we had before.

2. The Wassermann diagnosis is still uncertain in its meaning, difficult in its exact performance and too capricious in its appearance to be assigned a predominant place in the diagnosis and a guiding value in the treatment of syphilis. We must still be guided by clinical symptoms in the first place.

3. Salvarsan is undoubtedly the most effective remedy in the treatment of syphilis, but because it has such a powerful action on the organism it is not and cannot become the sole method of treatment. I believe that of all the opinions expressed about salvarsan the most acceptable is that of Unna who says: "Salvarsan does not substitute and exclude mercury but complements it. The question is not salvarsan or mercury but salvarsan and mercury each in its place." His indications for salvarsan are: (1) lesions of mouth, throat and nose; (2) pustular syphilids of the secondary and ulcerated, serpiginous and gummatous syphilids of the tertiary periods; and (3) malignant syphilis. In general he recognizes the indication for salvarsan in cases (1) where a rapid action is required, as in gummata of vital organs or in hereditary syphilis of the newborn; (2) where there is an idiosyncrasy against mercury; and (3) where mercurial treatment was of no avail.

32 N. State Street.

TECHNIC FOR THE INTRAVENOUS INFUSION OF THE EHRLICH-HATA PREPARATION ("606") FOR THE TREATMENT OF SYPHILIS

L. BLAKE BALDWIN, M.D.
CHICAGO

1. *The Preparation of the Fluid for Infusion.*—A hermetically-sealed glass tube contains a dose of the *Dichlorhydrat-Dioxydiamido-Arsenobenzol.*

The powder is put into a sterilized measure containing 30 to 40 c.c. of sterilized hot water and brought into solution. It is best to pour the powder into the hot water. The solution of the powder usually follows by itself in about fifteen minutes, or at times it may be necessary to stir the solution with a sterilized glass rod. It is to be particularly observed that the solution is absolute and complete, and that no undissolved particles or swollen particles of the preparation are present.

The solution is now poured into a sterilized chemical flask containing 200 c.c. of sterilized physiologic salt solution of body temperature.

By the addition of one fifth solution of normal sodium hydrate the dichlorhydrate is precipitated and the base is liberated. The precipitate is of a flaky nature which, however, again passes into solution by the further addition of solution of sodium hydrate. As a rule 0.5 gm. of the preparation "606" requires about 20 c.c. of one-fifth normal sodium

hydrate solution. However, it should be closely observed that not more of the solution of normal sodium hydrate is added than is necessary to bring it into solution. An excess should be avoided.

2. *Instrumentarium.*—The necessary instruments: a. A small cylindrical glass percolator.

b. A piece of thin rubber tubing about 1½ meters long, which is interrupted in the center by a piece of glass tube.

c. A thin vein-cannula with needle tips.

3. *Technic.*—a. The skin of the arm is thoroughly scrubbed with soap and water, then disinfected with a solution of corrosive sublimate, ether and alcohol.

b. In order to produce an engorgement of the veins a rubber tube is placed around the middle of the upper arm.

As soon as the veins at the bend of the elbow become prominent the sharp needle-form cannula is inserted high up into the vein. Just as soon as blood flows from the cannula, relieve the constriction of the arm and attach the tube of the solution container to the needle. The time required for the completion of the infusion of the fluid will be about five minutes when the solution is held appropriately high. It is to be especially noticed before attaching the tube to the needle that all the air is expelled from the tube. Also allow no air to enter the vein at the time of the completion of the infusion. When the infusion of the fluid is complete, raise the arm and remove the needle. The punctured wound is covered with a piece of sterilized adhesive plaster, which can be removed the next day.

Outside of the pain produced by introducing the needle into the vein, there should be no after-pain nor any other disturbances at the seat of the puncture. The general disturbance noticed after the administration (if not more than 0.6 gm. dosage) is a slight rise in temperature, some vomiting and diarrhea. In many of the cases, however, even these disturbances may be absent. In the young and robust patients a dose of 0.8 gm. has been used without producing any bad results. It is absolutely necessary that the patients remain in bed twelve hours after the infusion.

A PLEA FOR THE BORDERLINE CASE*

FRANK E. AUTEN, M.D.
BELLEVILLE, ILL.

I can think of no subject which would suggest more needed study or one that should receive more earnest consideration than the subject selected for this paper. Hardly a day passes in the life of a practitioner of medicine that such a case does not come to him to consult, concerning his or her health. People of both sexes, all ages and color, and people in every condition of life suffer with nervous and mental conditions, either acquired or inherited.

---

* Read before the St. Clair County Medical Society, East St. Louis, Ill., April 6, 1911

The nervous patient and the mentally defective are numerous to-day. They have always been numerous. Since man first selected medicine as his profession, he has met this army of mental and nervous defectives. As the struggle for existence becomes more intense, as people become more affluent in life, do the contributing factors which cause the mental and nervous troubles increase. As man climbs higher in the scale of life, thus bringing increased responsibilities to him, so also the increase in the number of defectives keeps pace. As the intense struggle of the poor man to keep pace with his fellow man increases, so likewise, in his sphere, does the borderline case increase in number.

In the early history of mankind, when all were more or less on a level, when man lived off the fruits of Nature, by plant or animal life, when the hunter or fisherman could step outside his door and get his daily bread and garment, then there were but few of this class of defectives. For plant life grew luxuriantly at his door, and animal life teemed in vast numbers around his abode. It was very easy to get food from fruit and flesh, and clothing from hide, hair and wool of the animal. There was but little in that life to contribute toward the development of the nervous patient, and only since man began to specialize and advance in life have we had any great amount of nervous and mental troubles.

I cannot offer you anything new on this subject, but it gives me an opportunity to make a plea for those unfortunate individuals who suffer from physical or mental, nervous or moral, disease, or a combination of these diseases, who come to us, seeking relief from their troubles.

To these people, so suffering, their troubles are real. We may say to ourselves that they imagine they have pain, or that they cannot sleep, or whatever they complain of. We, who are normal, cannot understand why they should think their troubles real.

A distorted mind sees everything so distorted. To them it is real. We have often listened to the ravings of the maniac, and wondered how he could have such a false conception of the things around him. An eye whose muscular apparatus does not work with its fellow sees things double, sees them distorted, sees them in unnatural relation to each other, and so the mind which is morbid sees all things distorted, and finds pleasure in those conditions which to the normal mind are disgusting and painful.

To understand the morbid mind, we must take the view-point of the patient, and then we will be more in sympathy with him. When we realize that he is mind sick, then we will give to him more attention and patience, and will try to help him out of his miserable self. The neurasthenic, the hysterical or hypochondriac is suffering with a diseased brain, or physical or moral defect which has weakened his mental operations and thus weakened his will power and his moral concepts. In this weakened condition he comes to us for relief.

Most of us have not had early training and education along the line of mental troubles, and when we go out into practice do not fully appreciate this class of patients, and are not able to diagnose their troubles, and thus are unable to treat them properly, but fearing that we may lose

our patient, we go at his case in a random way, giving him some medicine to make him sleep, or a nerve excitant or nerve depressant, not knowing why we do it, but just simply to treat our patient's own diagnosis of the case.

Can't you recall many such cases in your early practice? I think many of us can.

It is not necessary for me to say that we did not do our patients any good; we did them harm, for we fed their already morbid desire for medicine, which was not our only mistake, for these so-called nerve tonics and depressants do an actual harm in most of these cases. I know of no reliable drug for the tired nervous system. I know of no reliable drug for the unstable mental or moral make-up of this class of patient. Then why dose them?

A very large per cent. of these borderline cases have no demonstrable lesion or disease of the brain or general physical body. They are simply individuals whose nerve cells do not work normally.

They are the offspring of parents whose physical bodies were not right. Their cells appear normal, yet they have not the normal amount of energy in them. These are the children of more or less depraved parentage, or else the result of self-abuse on their own bodies brought about by defective living. Then why feed their already morbid desire for drugs? Many of us are responsible for this increased desire for drugs, by giving to them drugs when they were not indicated.

You ask, what will we do with these patients? I answer, study them closely with an earnest desire to find out what is the difficulty, and how to best meet the trouble. Many of these cases cannot be benefited because we cannot handle them as we would.

I heard a most interesting talk by a very intelligent medical man a few years ago, in which he said "that if he could have an auditorium fitted up, and be able to have all his nerve-tired patients meet him every day for one hour and permit him to advise them as to their work and their manner of living, and if he was permitted to remove all the irritants of the home and make it cheerful and pleasant for them, he was satisfied that he would not have to use very much medicine in these cases." By getting rid of the irritating influences in the home and in the workshop, we would get rid of those jarring influences that trouble the over-tired nerves of our patient. To treat these cases as they should be treated, we must become more familiar with the home life and the daily surroundings of our patient. Oftentimes by a better understanding in the home on the part of some or all of the family much of the cause of the patient's trouble will have been eliminated. Nerve tonics or nerve depressants cannot materially affect a jarring household, cannot change a wayward husband, son or daughter, neither can they put love or charity in the home.

So all your drugging of your patients has been worse than no treatment at all, for you have not educated your patient, or his or her family, in the right way to live, and the causes which have rendered your patient sick, and for which he or she seeks aid of you, will go on in the same way.

So I say, that this class of patient needs and deserves much closer study of their ailments and environments than almost any other class of our patients, and so to-day, we make plea for a closer study of our so-called "borderline case."

In the first place, prophylactic medicine, or preventive medicine, is the best medicine. You cannot benefit all of your cases suffering with borderline troubles, but it is our duty to so educate ourselves and our patients that we can hope some day to reduce this army of physical, mental and moral delinquents by attempting to prevent these delinquents.

True prophylaxis or prevention must go even back of conception. It is the duty of the fathers and mothers of our homes to see to it that their sons and daughters may enter into the marital state only with those who are perfectly healthy in body, mind and morals, for only by the union of healthy nerve cells on the part of both the paternal and the maternal elements, can we hope to get an individual with healthy mind, morals and body. In other words, we must educate our people to the fact that the same great laws of heredity apply to the man-animal as apply to all other forms of animal and vegetable life. Breeders of improved animal and vegetable life have long ago recognized the importance of heredity, and the care in the breeding of their animal and vegetable life. So, we who have the health of our communities in our care, should study well this subject and instruct our families as to its application.

I fear that medicine, like all other subjects, is too commercialized to-day. Even our schools and churches are tainted with commercialism. Let us get back to the old time condition, when the family doctor was the family counselor. Our families have gotten away from us. We must get back into the family confidences, for only then can we instruct them in the most delicate subjects that affect the welfare of all the individuals in the home. We shall see to it, that the schools, churches and all other sources of education shall present this subject to the home. Then will the day come when marriages are not considered from the standpoint of money, or of social advantage, but rather from the high viewpoint of individual improvement in the physical, mental and moral make-up of our race. Then will nerve-tire get a setback. Then will there be fewer neurasthenics and hypochondriacs. Then will home and social life and workshops have less irritants, and more stable nerve cells will be the result. Then will you get rid of your borderline cases. As long as we go the pace that kills, as long as marriages take place without due consideration of mental, moral and physical being, so long will we have this vast army of mental and moral and physical wrecks about us.

Throw away your nerve excitants and depressants, and use natural means to calm the over-excited nerves, and to stimulate the under-excited nerves. Use your influence in the home and workshop to get rid of those things which irritate or depress your patients, and then will you apply the natural therapy to your patient. Some twelve years ago it fell to my lot to be the superintendent of an insane hospital in our state, and for four years I had the privilege of studying the morbid and diseased mind, and the treatment thereof.

Early in that career, I appreciated what the immortal Shakespeare so truthfully said many years ago, that "there was no medicine for the mind." By medicine I think he meant drug therapy.

It was my privilege to see some thirty or forty fiends for chloral where it had been given them night after night to quiet their ravings. I instructed my assistant to use no chloral or other medicinal hypnotic, but to see to it that these patients received the hot and cold baths, massage and good milk with oftentimes a little pepper in it. In the course of a few weeks, many of our most violent patients became quiet. I removed all forms of restraint, both physical and medicinal, from those who were in restraint, and was happy to see many of these become our best patients. I am opposed to both physical and medical restraint. I cannot protest too strongly against them. I plead for the eradication of the irritants, and for the use of the normal and natural means and method in the care and treatment of the nervous patient, whether he or she be in the home or in an institution.

We have discussed the necessity for preventing these defectives, but how reach a great mass of borderline cases early in their career, when you cannot reach the home and workshop? Some years ago, I made a plea in our state for a state institution to be built on the cottage and home plan, where patients who could not receive the proper care in the home because of irritants which were making our borderline cases worse, could be sent to these institutions or hospitals, where the most advanced ideas of care and treatment would be carried out, where the patients could be taught self-care and self-reliance, where they might be shown that their ills were those which they might overcome by changing their place of abode or work, where they might be shown that their stomach and bowel, or other physical ailments, were not real, and that by self-assertion they could overcome much of their trouble.

In other words, make an educational institution as well as a hospital out of it. By this combined treatment, we could save individuals from a miserable existence. We build institutions for them after they become hopelessly gone. Why not build institutions to try and save them from their wretched condition which ofttimes leads to the lunatic asylum or worse? No response has come from that early plea, yet I believe the day will come when we will have this home and school for the borderline case, where such patients can be made to see themselves as they are, and where they will be brought to the point of self-assertion and control, and thus be enabled to go into the world and lead fairly useful lives.

I am now going to touch on a very delicate point. I would advise and earnestly plead for the unsexing of the incurable borderline case. Why permit children of such parentage to come into the world, and oftttimes become more miserable than their parent? The child of such a defective may not be as fortunate as the parent. Instead of simply being a harmless borderline case, you may have an epileptic, a feeble-minded child or even a criminal. I am urging this only in extreme cases.

While I am on this subject, I will say in passing that I was one of the earliest advocates in the country for unsexing the confirmed criminal,

the epileptic and the feeble minded. It is no hardship on the individual, but a Godsend to the community to stop this army of defectives from burdening our state and homes, but here again we plead for prophylaxis, or preventive measures.

So, if you have followed us, we have more hopes in educating the home, so that fewer borderline cases can arise, in ways for prevention of increase of these cases. And we believe more in education of borderline cases, if he or she is able to take it, and also in the right mode of living in the avoiding of irritants, than in all your drug therapy. I am a nihilist in drug therapy, as applies to those cases in most instances. We hope that through this short plea for the borderline case we may at least arouse interest in the subject in those present, and that we have said something which may redound to the betterment of this unfortunate class of our patients. The hope that some of our friends present may give us some valuable suggestions on this class of cases, whereby we may all profit, was the reason for this paper. Educate ourselves in this line of thought, educate the homes we enter in our work, educate the young people we come in contact with, and time will show a rich fruitage from our efforts. Our race will be immeasurably blessed thereby. Heredity and environment are the two great forces through which all improvement must come to the race. Let us never tire in our efforts to improve our race. Let not the dumb animal and plant make greater progress or improvement than the man-animal.

Let us no longer think only of prescription for some drug to be taken by our patient, but let us get at the causes that work in each of our individual patients, if it can be done. For those that are hopelessly gone, let us at least advise that no children be brought by them into the world to burden the coming generation. Let our best efforts be put forth in the betterment of the future man and woman. We will thereby have rendered most worthy services to our kind. Let us plead for better home conditions, for improvements in the workshop, for the elimination of the many conditions which bring about this undermining of the body, physically, mentally and morally.

In other words, our profession is to become more and more as it has been in the past, a medium for the dissemination of true living.

Our schools and pulpits must join us in this work, and most of all, journalism must help us. We can only reach the people, and do work for our race when all these great factors work together. We hope that the day will come when the physical, mental and moral qualities of our race will be so improved that we will not have these morbid individuals in our world.

Truly the millenium would be here, and I especially ask your consideration of this idea of the state providing these institutions for the education and treatment of the nerve-tired patients, the hypochondriacs and the neurasthenics, and thus save those whom we cannot reach in their environment of home or work, and who have not the means themselves of seeking other environment.

Think of this, and if it appeals to you as it does to me, perhaps this paper will not have been in vain.

I must plead again for a closer study on our part of each individual patient, the application of the true therapy, whether it be educational or medical, or change of environment, or whatever our patient may need. You will then help save to the family and to the state vast numbers who are miserable themselves, and who make all around them likewise miserable, for a home cannot be a home when it is cursed with one of those unfortunate members of society.

TREATMENT OF HEMORRHOIDS UNDER LOCAL ANESTHESIA *

CHARLES J. DRUECK, M.D.
CHICAGO

In presenting this paper I have no pet operation to boost or technic to describe. When you look through your text-books and see the variety of procedures described it is evident that the ideal for hemorrhoids has not been found. This is, I think, because they are a result of some other condition which is different or acts differently in each patient. Circumstances and surroundings not only influence the induction of the piles, but also are a factor in your choice of treatment, which sometimes may be operative or again must be tentative.

In women, a hemorrhagic flux sometimes replaces menstruation and in atheromatous or apoplectic subjects this periodic loss of blood lowers the arterial tension and relieves the danger of rupture of the cerebral vessels. In such cases the prudent surgeon declines to remove the individual's safety valve. Hemorrhoids frequently accompany cirrhosis of the liver and here we must never operate because either the wound will not heal, other hemorrhoids will appear higher up or dropsy and a rapid break-down will ensue. The hemorrhoidal veins communicate freely with the portal and general venous systems and all diseases of the liver, heart, kidneys and lungs have an important bearing on the etiology and treatment of piles. Therefore, on your first reception of a hemorrhoidal patient you must ascertain much about his physical condition, his habits and the condition of his piles before you consider his treatment because some are relieved by very simple procedures, others require major operations, and still others are incurable and must not be operated on at all.

Hemorrhoids that are amenable to treatment occur under very different conditions and in all classes of patients. There are many methods, and most of them are good, in selected cases and your treatment is half done when you select your case, determine its proper treatment and know what results to expect. The reason you treat so few rectal cases is not that they are infrequent but rather that your patients do not like to have an operation and particularly to take a general anesthetic and be confined to bed. Patients suffering with piles are prone to use

* Read before the Stock Yards Branch, Chicago Medical Society.

domestic remedies and nostrums until they are physical wrecks from loss of blood and pain, all the time refusing an operation. With our present knowledge, it is not always necessary or wise to give a patient a general anesthetic and keep him in bed or in a hospital three or four weeks irrespective of the variety or condition of the piles. Practically all uncomplicated cases, and they are numerous, may be operated on with local anesthetic at your office or at the patient's home. This eliminates the danger to life from heart, lung or kidney complications of a general anesthetic and lessens the pain and danger of secondary hemorrhage due to vomiting as occur so often after a general anesthetic. Incidentally, it puts dollars cheerfully from the patient's pocket into your pocket.

Hemorrhoids are divided into two great types by the position of their origin, internal or external to the sphincter ani. As the internal type becomes exaggerated and is pulled down by the sphincter, it will protrude externally, but it is nevertheless an internal hemorrhoid and must be treated as such. This differentiation is important because the treatment of each type is different. In fact, each individual case presents peculiarities of its own which demand modifications of the outlined treatment.

Hemorrhoids are ruptured hemorrhoidal vessels. The inferior trunks at the anus or below are covered with skin which stretches but little and the blood is closely confined under tension, thus causing severe pain. The middle and superior hemorrhoidal vessels above the anus are covered with soft, fatty connective tissue which easily dilates, and the tumor may attain considerable size without causing anything but an uneasiness, due to it being a foreign body; but when the hemorrhoid has been pulled down by the sphincter and has protruded for some time the mucous membrane becomes dry and thickened and resembles skin. It is, of course, the end capillaries which more frequently give way, and thus we have a varicose pile when a venous capillary breaks, an angioma or arterial pile if an arteriole ruptures, and when a pile has protruded long and has been bruised and inflamed the areolar structures are changed into connective tissue.

The External Pile.—The patient's story of an external pile is usually something like this: He was perfectly well and while at stool either straining or after wiping himself rather harshly he felt a twinge or sting at the anus and since then has suffered a sharp, continuous pain. This is a thrombotic hemorrhoid and to the touch feels like an enlarged lymphatic. It is usually single but may be multiple. This condition, if found on the skin elsewhere, would be called a blood-blister, and even when you were a child you knew that to let the blood out gave immediate relief. The same treatment holds true here. Rip the tumor open and let out the blood, but whenever you operate about the rectum remember to clean things up a little. I have seen surgeons who would carefully prepare their patient and themselves for a laparotomy begin work about the anus without any further preparation than simply wipe off the anus with a cotton pledget dipped in bichlorid. That will not do. You must

wash the whole area well with green soap and flush with alcohol just as you would cleanse the skin anywhere else. It is not necessary to shave the hair as it does not cause trouble and if removed the subsequent growth feels so much like a pin cushion as to disturb the patient.

The slight operation for thrombotic hemorrhoids may be painlessly performed by freezing the surface with ethyl chlorid. Then steady the parts by holding the tumor between the thumb and forefinger of the left hand and with a sharp-pointed bistoury enter at and passing through its base the pile is split in two. The incision should radiate from the anus because a scar one inch long at the anus in any other than a radiating direction will by consequent contraction make a skin fold which will be dirty and troublesome later. Immediately on opening, the skin retracts and the clot usually pops out, followed by a little oozing. If the clot does not slip out, it is to be picked out with forceps but not squeezed out, as that produces traumatism, breaks up the clot and increases the danger of emboli. Be careful to split the whole tumor, not merely its top. If the patient will strain down during the cutting, it fixes the perianal tissues and also assists in removing the clot. When the clot is removed, you will notice an oozing from one or both ends of the vessel. Therefore, the pile cavity must be packed firmly with gauze soaked in 1 to 1,000 adrenalin solution to stop hemorrhage and prevent the severed edges falling in and glueing together. If this should happen, the sack will refill and the pile reform. In twenty-four hours, remove the gauze but do not use force, as that causes needless pain and hemorrhage. Rather soak it for several minutes with hydrogen peroxid and it will fall out. If bleeding still continues, you will have to repack, but usually the edges have retracted, leaving a shallow granulating wound which heals in a few days. The radial folds fall together and close the wound without sutures. Dress the wound each day to see that no feces lodge to irritate and infect. This is a simple operation but gives universally good results, and nothing else does. Therefore, it is the only treatment. There are two things you must not do. 1. Do not simply puncture the hematoma. That allows a few drops of blood to escape and relieves the pain for an hour or so until it refills and then the pain recurs. 2. Do not apply a leech, because it is dirty and may protract the oozing several days, being both annoying and exhausting. Often the patient does not consult the doctor until the clot has been absorbed, expelled or abscessed and there remains an hypertrophied teat of skin which we know as a cutaneous hemorrhoid. This may also happen unless the wound is well packed open. I never suture the wound, because the suture tracks almost always become infected and instead of hastening you retard healing. The suture pinches and annoys the patient.

Cutaneous Hemorrhoid.—A cutaneous hemorrhoid *per se* causes no symptoms whatever because it is only a skin tag more or less hypertrophied, but owing to its peculiar situation it is liable to frequent trauma from being sat on and when inflamed it comes to the attention of the rectal surgeon. It is also aggravated by improper diet, irregular habits and uncleanliness, and requires careful cleansing to prevent maceration,

which causes an offensive discharge. When inflamed, it appears as a hard, edematous, tender mass at the anal margin varying in size from that of a pea to as large as the first joint of your thumb. It is external to the sphincter and if pushed within the anus it promptly prolapses. It is smooth and shining, covered with skin on the outside and perhaps mucous membrane on the inner side. It is necessary to recognize this form of hemorrhoid as it is a connective tissue tumor and not vascular. Scarification gives no relief and attempts to place it within the rectum makes matters worse. The treatment depends on what your patient will permit, tentative treatment for relief and removal for cure. Many individuals go for years with these cutaneous hemorrhoids without suffering by being careful and cleanly in their habits. When irritated, it may be treated expectantly until the inflammation subsides and the pain disappears. Suppuration is exceptional, but the tumor remains larger after each attack than it was before.

Palliative treatment consists of:

1. Rest in bed lying on the face or side (not on the back).
2. Bathing with cold compresses.
3. Apply a soothing ointment such as ung. Rectone.
4. For diet allow meat, green vegetables, fruits and large quantities of water, but avoid starches.
5. Cholagogues must be used judiciously. Each case must be carefully studied for its own peculiarities.

The only curative treatment for these tumors is radical excision. This may be performed under local anesthesia but to do successful hemorrhoidectomies requires close attention to minute details and careful consideration of your patient's nervous temperament and personality.

The base of the tumor is determined and marked by abrading with a scalpel. A 0.5 per cent. cocain solution and 0.5 per cent. of 1 to 1,000 adrenalin solution is used for the anesthetic. The mixture must be fresh. The hypodermic needle should have a long, straight, tapered, sharp point that may be smoothly introduced into the skin, as otherwise it sticks in the outer skin, then jumps through. The patient jerks away and you have to begin again. The oblique portion of the needle's point is laid on the skin at the point of first injection. The integument is drawn tense and by moving the fingers only the needle is pushed steadily in until its mouth is buried in the tissues. A few drops of the solution is injected and a welt arises in advance of the needle. The needle is now advanced into this welt, still keeping it in a plane parallel to that of the tissues and another welt formed. In this manner the line that marked the base of the pile is followed around the tumor. The needle is then carried deeper and the process continued because not only must the hemorrhoid be anesthetized but also its base and the tissues underlying so that the patient may not experience any pain. Filling the tumor with cocain raises the abraded line marking the base of the pile above the level of the surrounding tissues, but this is the line of incision and the tissues will return to the former level when the fluid has been absorbed or has flowed out. Sometimes a couple of bleeding

points need to be picked up and the wound edges approximated with three or four No. 1 catgut stitches. A light absorbent dressing covers the wound. Each day this is removed and the parts douched with warm normal salt solution and fresh dressings applied. The parts must be washed after each bowel movement. The wound usually heals in about a week. In placing the stitches, be careful that the edges are well coapted and no raw surfaces left, as such places are very painful and delay healing. If one of these spots is accidentally left it will be covered with granulations, which should be clipped off close to the surface. The sutures must be placed as soon after the tumor is removed as possible, because when the blood escapes the anesthetizing fluid is also lost and sensation soon returns. It is sometimes surprising to see a tumor dissected away painlessly and then have the patient complain considerably when the stitches are put in.

Internal Hemorrhoids.—The internal hemorrhoids constitute one of the most frequent, painful and troublesome conditions about the anus. They begin in the capillary anastomoses between the portal and caval systems, usually just within the anus and extending up a variable distance, involving larger vessels and plexuses. These vessels being just under the mucous membrane may distend easily until they are caught in the grasp of the sphincter which then continually tugs at them until they protrude. The suffering caused depends on the extent of inflammation, ulceration or strangulation of the pile and is also responsible for other rectal, vesical or prostatic, uterine or reflexed pain and disturbances. There is also produced a sanious discharge which causes a persistent pruritus and frequently through infection, abscess and fistula. Clinically, we often find a patient with both external and internal hemorrhoids at the same time. The venous capillary usually gives away but sometimes the arterial capillary ruptures. The two varieties must be distinguished because palliative treatment is useless with the arterial variety.

The arterial hemorrhoid is really a nevus. It arises in the anal canal never more than two inches within the bowel. It cannot be felt by the finger and as it does not protrude it must be seen through the speculum.

It attains the size and appearance of a raspberry and is characterized by excessive hemorrhage which is sometimes spurting in type and during which the patient may be exsanguinated. A number of deaths have been reported from this cause. They cause little or no pain, rarely protrude and may occur alone or combined with the internal venous hemorrhoid. If found alone, I use the galvanocautery. The technic is very similar to that which the rhinologist uses when cauterizing the nose. A good sized fenestrated speculum is introduced and the pile engaged in the opening. A few drops of cocain are injected into the pile and the cautery applied at a dull red heat. It is applied momentarily only and repeatedly so as not to radiate heat and yet coagulate the lymph and plug the vessels. Be careful not to cauterize too deeply nor simply sear over the surface. The whole pile must be destroyed down through the submucosa so as to destroy the chief blood supply. The cautery tips are

small and are plunged directly into the pile. The arterial hemorrhoid is usually found singly but rarely two or three may be found. If so, all may be removed at one sitting. After finishing the operation, cover the wound liberally with soda bicarbonate to relieve the pain. I rarely find opiates needed. Each day I introduce the finger well covered with 10 per cent. ichthyol in vaselin to keep the sphincter relaxed and to protect the granulations. The care of the bowels is the same as will be spoken of in the treatment of the venous variety, which we will take up next.

Venous Hemorrhoids.—Venous hemorrhoids are the most common variety of piles and vary so much in size, complications and degree of suffering they cause the patient that no one plan of treatment is applicable for all cases. Where the tumors are isolated and prolapsed they may be removed under local anesthesia at the office. Where they are not prolapsed and where they extend high up in the bowel they are usually complicated with a narrow anus and an hypertrophied sphincter. Under such conditions it is difficult to reach the top of the varicosity and as the whole pile must be removed it would best be done under ether. Of course if all the pile is not removed your operation affords only temperary relief and is otherwise a failure. If several hemorrhoids are to be removed, the operation would better be done at the patient's home, even if under local anesthesia, because if performed in your office there is danger of secondary hemorrhage from a stitch pulling loose by the patient's movements on his way home. Let us divide these venous tumors into:

1. Those that must be treated tentatively.
2. Those that may be removed under local anesthesia.
3. Those that require a general anesthetic and confinement to bed and absence from work for some time.

Venous hemorrhoids may be much relieved by palliative treatment where surgical treatment cannot be instituted either by the patient's refusal, some jeopardizing systemic condition or in aged or delicate individuals. In all of these conditions, unless there is excessive bleeding or strangulation, it is better not to operate but to use local tentative measures, as there is always danger of embolism, hypostatic pneumonia or phlebitis after operation on such subjects.

If the hemorrhoids are inflamed and prolapsed, they must first be reduced. If the patient is seen at his home he should be sent to bed. An upturned chair is placed in a slanting position on the bed and the patient on his knees reclines against the chair. This places him in an extreme oblique lateral position, a posture between the Sims' and knee-chest.

Next paint the whole hemorrhoidal mass with 2 per cent. cocain in 1 to 1,000 adrenalin solution, and then wait twenty minutes because the circulation in this edematous and strangulated mass is slow and the drugs are not rapidly absorbed. Gravity depletes the tissue and the patients' position with the thighs flexed relaxes the pelvic muscles so that the protrusion will either reduce of its own accord or may be easily

replaced. Of course all of it does not belong internal. Probably about one-half does and a lateral sulcus running parallel with the median raphe will usually be found. Internal to this line is mucosa and external to it is skin. This should be remembered because if the whole mass is placed within the rectum the patient will be just as uncomfortable as he was before. That part external to the sulcus is edematous external tissue and sometimes it may be necessary to incise this to deplete it quickly.

After the hemorrhoids have been properly replaced, the whole anal region should be well covered with Rectone ointment covered with gauze compress, and the patient is then let down on his bed stretched out prone. The pad and the buttocks are now strapped down with adhesive plaster reeinforced with a T-bandage. If the hemorrhoids are inflamed but not strangulated they should be given a bath of warm slightly antiseptic solution, followed by a cold douche and then the Rectone ointment applied. The patient should lie on his face as long as he can, and then may turn on his side with the hips elevated on a pillow or two. Keep the hips up and do not let him lie on his back. This is important because it will arrest infiltration, hasten resolution and relieve pain more effectively than any other remedy.

The next day, put the patient on his side with the knees well flexed, dilate the sphincter gradually and massage the hemorrhoidal field. Irrigate the rectum and anal canal with sterile water and swab the piles with 1 to 1,000 adrenalin solution and apply the ointment on the outside. If there is much mucus discharge it will be well to inject one-half ounce of aqueous fluid extract of krameria at night.

The bowels must be kept open each day, and it is a study with each patient to find something laxative but not exhausting. Sulphur is gentle in its action, produces a soft, mushy stool which easily slips by obstructions and allays inflammation by its presence in the stool. Castor oil also produces a soft stool, does not create gas and leaves the abdomen relaxed. It is a good plan to have the bowel movements at night that the patient may rest after cleansing and dressing the rectum.

Hemorrhoid sufferers should avoid strenuous exercise, bicycling, riding, automobiling and railway journeys, as these all maintain a position with the thighs flexed which opens the anus below the internal sphincter, thus losing the anal support. By careful, close attention, these patients can usually be made very comfortable, but of course it is only tentative and not curative.

Removal Under Local Anesthesia.—One of the cardinal reasons for using a local anesthetic is to interfere as little as possible with the patient's pursuing his regular duties. Therefore, too much must not be attempted. Where several hemorrhoids are to be removed, it will require several sittings. Only one or two should be removed on one day. A local anesthetic has a distinct advantage in aged, timid or nervous patients who object to the anesthetic; but you must attempt only cases in which the tumor can be brought outside or the anus is patent. Internal hemorrhoids, bleeding and painful and demanding operation but not protruding to any extent, cannot be satisfactorily removed under a local

anesthetic, because the very first step in the treatment of such a case is careful but thorough dilatation of the sphincters, and that is impossible without a general anesthetic. If the anus is patent, or if you can easily reach the upper limit of the base of the pile without much stretching, you may operate under cocain, but if the pile is a large one the patient should rest in bed for a couple of days. The determination of which hemorrhoids shall be operated on with local and which under general anesthetic is an important matter and yet in a general way we can say most cases may be operated on safely in the physician's office or at the patient's home under local anesthesia, causing but from a few hours to two days detention from business. Where only one or two piles exist, the operation may be performed in the office and the patient sent home after a little rest, but in aggravated cases where a large area is involved or where the blood vessels are atheromatous the work should be done at the patient's home or at the hospital to protect against the chance of secondary hemorrhage.

Technic.—To prepare the patient, give him a soap suds enema of about one-half pint and then let him empty the bowel by straining. This fills the hemorrhoids and causes them to protrude. Place him on the table in the Sims' position and if the piles do not protrude or cannot be brought outside of the anus the work must be done through a speculum. If it is necessary to use the speculum you must dilate the sphincter at least partially with Kelly's conical or a vibrating dilator. If the hemorrhoids have protruded for some time the sphincter will usually be found relaxed and will not need dilating. If you do dilate, use five to ten minutes to relax the sphincter gradually. When working through a speculum, one of the great points in painless manipulation of the sphincter is to evenly distribute the pressure throughout its circumference. By injecting 20 to 30 minims of a 0.5 per cent. solution of cocain into the sphincter muscle just on either side of the posterior commissure at the point of entrance of the lesser sphincter nerves the muscle may be dilated with comparatively little pain. Of course it cannot be divulsed, but why should you do that? Five minutes after injecting the sphincter, introduce a bivalve speculum, open it a little and massage the muscle, but be careful not to tear the mucous membrane. Having opened the anus, you can now reach in, pick up one of the piles and bring it outside or introduce the fenestrated speculum and engage a pile in the opening and work inside. Whatever method is used, the best results are obtained by keeping the tumor at or near its normal position. Dragging it forcibly outside distorts its relations and interferes with placing the scar in its proper angle with the anus.

The particular hemorrhoid having been brought into place, may now be anesthetized by infiltrating as I mentioned earlier with these particulars. The needle must be fine (thin), as a thick needle may be thicker than the capsule of the hemorrhoid and instead of infiltrating you will drive the needle directly into the circulation. Never begin any manipulation, pinching or operating on the hemorrhoid until it is anesthetized. When everything is ready, dissect the pile up from below until a small pedicle is formed. This is transfixed with a fine round needle

carrying a double ligature of fine catgut which is tied on either side. I always use a double ligature if I can because it prevents possible secondary hemorrhage due to slipping. Having tied the suture, cut the tumor off and cut the ligature close. After you remove the hemorrhoid, let the wound bleed a little to wash out any cocain left in the tissues and then apply a compress soaked in 1 to 1,000 adrenalin for a few minutes to stop the oozing. If I cannot dilate the anus enough to ligate the hemorrhoid, I use the electropuncture, which I described when speaking of the treatment of arterial hemorrhoids and which gives good results. Its use, however, requires several weeks because only a couple of applications can be made at one time and about two sittings a week are all that can be endured. If after a couple of weeks soreness is complained of, the treatment must be stopped for a week or two to allow healing. In this work an assortment of straight and curved tips are needed.

After either of these operations there results only a slight oozing, which can be cared for by a small external pad during the first couple of days. The degree of pain following any operation for hemorrhoids depends somewhat on the temperment of the patient but also and to a large degree on the technic and skill of the operator. During the first day I use hot compresses and after that a hot sitz bath for twenty minutes each day. This cleanses the peri-anal region and relaxes the muscles. When the patient lies down do not allow him to lie on his back, because in that position the middle and superior hemorrhoidal vessels in their upper portion are in a vertical position. At the pelvic brim they bend a sharp angle and the abdominal contents are superimposed. All of these obstruct and as the hemorrhoidal vessels have no valves there is a back pressure and a tendency to swelling, a giving away of the stitches, and more pain as well as a delay in repair. Therefore, keep your patient prone or in the Sim's position.

No opiates are needed for pain or for tieing up the bowels. If he has been properly prepared, the bowels will not move until a purgative is given. These patients expect defecation to cause terrible pain and I presume their fear acts as an inhibition. The accumulation of flatus in the bowel is frequently an annoyance. If it occurs, urge the patient to void it. If left to himself he usually restrains the desire because he is afraid bleeding may occur and he will often spend a wakeful, restless night when he could have relieved himself without any possible harm.

If the sphincter contracts spasmodically and causes pain, it shows you did not relax it well before operating. It may usually be relieved by hot compresses. I do not use a hot-water bag because of the danger of burning.

Our patients will suffer less pain if we remember:

1. The wound must not reach the muco-cutaneous edge, as that is the most sensitive point at the anus.

2. The wound of one hemorrhoid must not be disturbed when removing another.

3. The axis of the wound must conform to the axis of the anal canal. This coaptates the wound edges and the scar cannot narrow the lumen of the bowel or catch feces.

4. One incision or all of the wounds together must not involve the whole circumference.

5. Hemorrhage must be arrested and you must be prepared for secondary hemorrhage if it occurs.

6. Never use bichlorid of mercury during the operation or in the dressings, because it will set up a teasing diarrhea.

7. Never plug the rectum with gauze or a tube. It cannot do any good and always makes the patient feel uncomfortable.

438 East Forty-Sixth Street.

RELIGION AND MEDICINE.*

Rev. Jas. R. E. Craighead.

In submitting this paper I shall not attempt to define the terms medicine and religion, but consider them in the popular sense in which they are universally accepted.

Simply stated, the physician's office is merely to aid Nature, and the true physician never aims to supplant Nature, but to get his patient in harmonious adjustment with her laws. Now the religion of the Bible teaches that the body is the temple of the spirit and should be cared for as such, but straightway after learning this we immediately forget it and begin to mar the temple. In depraved cases the passions and appetites are indulged, especially through drink and licentious living; more commonly, however, we err in overloading the stomach, keeping too late hours, working without sense or system, worrying over trifles and shutting ourselves away from the great health giving forces of Nature—God's out-of-doors. Naturally our bodies rebel, and so the doctors have to take us in hand and make religion practical as it pertains to the keeping of our bodies. It is surprising (and no one knows this better than the physician) how much sickness is due to living out of harmony with Nature. In such cases, medicine's operation should coincide with the principles of common sense and religion—merely get the patient into harmony with health-giving forces and let God operate through Nature. Frequently this will mean not so much pill and fluid as the securing of a right attitude of mind in the patient. For this reason every doctor should be in as full a sense as possible a psychologist. It is because many physicians have failed to work along psychologic lines and have persisted in operating only through pill, powder and vial, that imposters have been able to juggle so successfully with psychical entities in the name of religion and medicine. Religion disclaims these fakers, just as medicine disclaims the quack, and yet both of us have to admit that results are sometimes secured by the religious faker and the medical quack which astonish the orthodox in both professions. It is only, however, as these methods and results stand the tests of truth and time that there is any permanent value to them.

---

* Read before the Union County Medical Society in Benton Hall, Ill.

It is comparatively easy to lead certain minds beyond their depths and confuse them and then exercise a kind of hypnotic influence over them through suggestion, and I am inclined to believe that many of these modern cures attributed to divine healing have been effected through a kind of hybrid species of practice, partially religious, partially medicinal and very partially suggestive. Both religion and medicine have suffered by this sort of thing. We must recognize, however, that a decidedly close relation exists between body and soul, and this may be affected by diet, environment and suggestion. "One reason why the wild Indian is as cruel as the lion is because he has food that gives him the blood of the lion." A missionary among the Indians says that "by changing his style of food to correspond with theirs his temperament is entirely changed." Now it is the office of medicine to look after the body, while religion cares for the soul, but because of the ramifications of the one through the other neither can be slighted. The man of religion makes a mistake, often fatal, when he treats his body like so much old rubber, as if it were of no consequence. The man of medicine makes an equally egregious blunder when he minimizes the important part played by the religious feeling of his patients, or when he pooh-poohs all religious instinct as so much mere sentiment. There is no gainsaying the fact that the religious instinct is deeply seated in all of us. It may be slaughtered after the manner of an abortion in the early stages of its development; it may be starved to death before attaining its maturity; it may be crushed and mangled by the ruthless treatment it receives from reckless agnostics or inconsistent professors of religion, and so grow up maimed and halt; nevertheless, the religious instinct is deeply seated in all men and may be made to play an important part if rightly appealed to in the healing of sickness and disease. For this reason relations of cordial sympathy and perfect understanding should be maintained between the representatives of the ministerial and the medical professions. It sometimes happens that physicians habitually take every precaution to keep all religious impressions from their patients, forbidding anything like religious conversation and shutting the door of the sick chamber in the face of the minister, as though he were as unwelcome as death. And this, too, in spite of the fact that the soul of the patient is about to start on its long, last journey, and is craving a potion that the doctor cannot give out of his medicine case. He may give it, and often does give it, out of his heart's experience and a knowledge of the power of Christ to forgive and relieve. Every physician should be furnished with this equipment of true religion in order to supply the best service, for there are times when the shadows of death are gathering around the patient, and there is no time to send for a religious adviser; besides, no one is so well fitted as he himself, through the hold he has upon his patient's confidence, to speak the word which will be a message of life and hope unto the soul going out into the beyond. It is better still when a physician makes this a working part of all his professional duties, not merely in the final issue of his cases, when death is coming in for settlement, but in all his practice, making consistent religion to perform a telling part. Then does he stimulate confidence, cheerfulness and hope, which are incalculable aids to his profession.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF THE ILLINOIS STATE MEDICAL SOCIETY

GENERAL OFFICERS 1910-11

PRESIDENT - - - - - - W. K. NEWCOMB, CHAMPAIGN
PRESIDENT-ELECT - - - L. H. A. NICKERSON, QUINCY
FIRST VICE-PRESIDENT - - J. A. MACDONALD, AURORA
SECOND VICE-PRESIDENT - - J. E. MILLER, PITTSFIELD
TREASURER - - - EVERETT J. BROWN, DECATUR
SECRETARY - - - - EDMUND W. WEIS, OTTAWA
(Ex-officio Clerk of the Council.)
EDITOR - - - - GEORGE N. KREIDER, SPRINGFIELD
522 Capitol Avenue.
ASSISTANT EDITOR - GEORGE EDWIN BAXTER, CHICAGO
4603 Evanston Avenue.

THE COUNCIL

CARL E. BLACK, JACKSONVILLE. J. WHITEFIELD SMITH, BLOOMINGTON.
H. C. MITCHELL, CARBONDALE. J. Q. ROANE, CARLYLE.
M. L. HARRIS, CHICAGO. J. W. PETTIT, OTTAWA.
J. F. PERCY, GALESBURG. J. H. STEALY, FREEPORT.
E. B. COOLEY, DANVILLE.

AUGUST, 1911

IS EGAN UNDER THE CIVIL SERVICE LAW?

Dr. James A. Egan, *de facto* member of the Illinois State Board of Health, elected Jan. 1, 1911, by the Board, the majority of the members of which were *de facto,* for the year, now claims that he comes under the revised civil service law, and is a fixture in that office, only to be removed by complaints filed with the civil service commission. If this were true it might be a very serious matter, and we understand that a great deal of comment has been raised by certain statements written by Egan and published in *The Journal A. M. A.,* and other medical and drug journals in the country. It must be remembered that all these communications were written by Egan himself, and are not authoritative. We understand that the question of the legality of Egan's assumption has been placed before Attorney General Stead, and that the matter may be determined in a very short time. In case the Attorney General should decide that the *de facto* acting secretary elected by a *de facto* vote comes under the civil service law, steps will be taken to push the charges which have been on file a long time against Egan's continuation as secretary. It is proper at this time to state that Mr. Deneen has many times promised to renovate the Board, and his lack of confidence in the present membership is certainly shown by his failure to reappoint the *de facto* members. In this same connection we will say that if some action is not taken by the Governor to carry out his promises before the first of September,

we expect to begin the publication in our columns of the numerous complaints which have reached this office against the board and its secretary. We have refrained from the publication of many of the scandals which have reached us in the hopes that the Governor would see fit to redeem the promises he had frequently made in the past years to bring about a complete renovation of this department of the state government. Suffice it now to say that the permanent foisting of Egan upon the people of the State of Illinois is unthinkable. Rather than submit to this we are quite sure the people of the state would favor the abolishing of the entire department. What they will do to the Governor who is proved responsible for Egan and his Lorimer gang is not a matter of much doubt either.

DR. J. L. GREENE

Dr. J. L. Greene, who has been since 1905 a resident of Illinois, and who was chosen for his well known ability to bring order out of the chaos then existing in the Kankakee Hospital, and who on Jan. 1, 1910, was appointed for a five-year term as alienist member of the State Board of Administration, has tendered his resignation from the latter position to take effect Sept. 1, 1911. It is understood that Dr. Greene leaves to organize a modern institution at Little Rock, Ark., and that he will be appointed professor of nervous and mental diseases in the State University, located in that city. During his residence in Illinois, Dr. Greene has made for himself an enviable reputation, as a man of mental strength and unusual administrative ability. We regret very much that conditions in "poor old Illinois" are such that Dr. Greene cannot see his way clear to remain in the state. The medical profession of Illinois is sadly deficient in men of his character. The impression he has made on the general public is well expressed by the editorial which appeared in the Springfield *State Journal* of July 26, 1911, which we copy herewith:

"STATE LOSES STRONG MAN

"The resignation of Dr. J. L. Greene from the state board of administration is a loss of no small consequence to the commonwealth. In a large measure the success attending the work of that experimental body can be attributed to his knowledge and efforts. Dr. Greene brought to the board a fund of information which has been of priceless value to the institutions of the state. While he was designated as the alienist of the board, his work has covered the entire field of that body's activities. His advice has been sought on all sorts of subjects connected with the institutions and his fellow members, as well as those directly in charge of the state wards, have come to have a great respect for his judgment. The retiring member of the board is going to Arkansas, where he will assume responsibility for the management of the state's hospital at Little Rock, in connection with a professorship in the state university. He is well equipped for such a task, for he combines with excellent professional attainments the practical ability of a well-informed business manager. It is a rare combination."

THE PRESIDENTIAL ADDRESS OF DR. MURPHY AT LOS ANGELES

Dr. J. B. Murphy of Chicago, who has long been prominent before the medical profession as teacher in its principal medical center, and as a lecturer before the leading medical societies, assumed the office of president of the A. M. A. at Los Angeles, and delivered an address which demands consideration. Dr. Murphy touched on a great many points, and suggested certain remedies for some alleged abuses. Out of the great number we can only notice one or two. The most important one of these is the alleged hardship that exists when a member of the A. M. A. in good standing in one county, leaves this county, and is unable to secure membership in some other county or state society affiliated with the A. M. A., and therefore loses his membership in the A. M. A. Dr. Murphy's remedy, as we understand it, is that either this party should be permitted to join the society of a neighboring county, or to force the county in which the party resides to accept him as a member. We are quite sure that if Dr. Murphy had had more experience in the practical workings of societies that he would not have suggested such procedures. We cannot conceive of anything that would be more disastrous to the local societies than to make such procedures compulsory. We have known of numerous cases under this definition in which the greatest injustice would be done if the local organization were required to take such action, or were compelled to permit a member to be received by a neighboring county society. No doubt many of the suggestions of Dr. Murphy are valuable, but at least in this one particular in our opinion his reasoning is at fault. We fear that many of Dr. Murphy's valuable prescriptions are of the shotgun variety, and that the doctors and the people will continue their habits of obstinacy and stupidity to the end of time.

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

One of the most provoking incidents of the Aurora meeting was the election of delegates to the Los Angeles meeting of the American Medical Association. President Cotton stultified himself by making an improper ruling. Every one got into a bad humor, and later Dr. Ferguson felt called upon to call the Editor to task for his description of the incident. When it came to the meeting we find but five of the nine delegates were present to represent Illinois, and among them not a single one from Chicago, not a high brow or a low, not a regular or insurgent. There may have been good excuses for the failure of these gentlemen to attend to the duties to which they were elected. If so they should be given to the Society through the columns of THE JOURNAL. In the future it seems to us some assurance should be given by the candidates for these important offices that they would faithfully represent the Society before they are elected. Otherwise the fuss that is made about these positions each year seems to be another case of "much ado about nothing."

THE DRUGGIST AND THE DOPE CURE

We have frequently had occasion to refer to the organization of the Pharmacists of Illinois and their official organ in Chicago, known as the *C. R. D. A. News*. Sometimes we have found subjects considered in the *News* worthy of commendation, but more frequently the *News* is distinctly off color. We can hardly believe that this dope cure proposition will be received favorably by the druggists of the state. The latest evidence of perversion we find in the issue of June 24, under the heading "A Profitable Side Line," which we produce herewith.

C. R. D. A. NEWS

SEND FOR OUR

DRINK HABIT

Cured in Three Days

BY THE

NEAL TREATMENT

The Old Established Chicago Hospital where ***The Neal Treatment*** is administered solicits investigation by pharmacists and physicians with a view to obtaining their co-operation.

The Neal Treatment consists of vegetable medicines administered internally without the aid of hypodermics, and quickly neutralizes and eliminates the alcoholic poison from the system, effecting a perfect and satisfactory cure.

All charges are refunded if a cure satisfactory to patient, relatives and friends is not effected at the end of the three days treatment.

Call in person for demonstration or write for full information and special professional arrangement. Address

The Chicago Hospital

815 East 49th Street, Chicago, Ill.

DRUGGISTS' PROPOSITION

We are particularly interested to know that one Senator James E. Bruce, is the president of these institutions, and that Senator Bruce "will deal liberally with the druggists co-operating with him in developing business." The Senator's legislative experience in Iowa has probably made him expert with "Big Business."

"Have you written to Senator James E. Bruce, president of the Chicago Hospital, for his proposition to druggists? If not do so now.

"When a person wants to be relieved of the liquor habit, whom do they consult first? The druggist, of course (sic). Is it not up to the druggist then to know where to direct these afflicted people—where the most effec-

tive and speedy relief can be obtained? It certainly is. The editor has investigated the situation carefully and is satisfied that every conscientious (?) druggist can refer cases to this institution with perfect confidence. The 3-day liquor cure discovered by Dr. Neal has a wonderful record behind it, and the success of the Neal treatment of morphine and cocaine cases is also quite startling."

"Senator Bruce will deal with C. R. D. A. members liberally for co-operation with him in developing business. Write for terms, literature, etc. Senator Bruce represented Mr. Carr's old district in the Iowa Legislature some years ago, and bears the reputation of being a high-minded gentlemen and a public spirited citizen. The Chicago Hospital is but one of the 52 institutions using the Neal treatment and constituting 'the Bruce chain' of inebriate and drug cure sanitariums."

We may expect Senator Bruce, by the aid of the *News*, to make his appearance soon in the halls of the Illinois Legislature at Springfield in company with other fellows from Chicago, who are equally expert in dealing liberally, and in developing business. The advertisement of the Neal Treatment in this same copy of the *News* is worthy of consideration in this same connection, and we insert it here for the delectation of our readers.

A NEW WAY TO EARN VACATION MONEY

Last month we had occasion to refer to the fact that osteopathic diplomas were for sale while you wait by a Chicago osteopathic diploma mill. This month we record The Western College of Osteopathy which has just been located in one of the cheaper rent districts on West Madison Street, Chicago, where osteopathic diplomas are dished out by mail. It is said that two students of Bennett Medical College are making vacation money in this enterprising business way. Anything goes in Chicago. Poor old Illinois.

THE JOURNAL OF THE IOWA STATE MEDICAL SOCIETY

Our neighbor, Iowa, is the latest recruit among the state societies in the journalistic field, and placed its publication under the editorship of our old friend, Dr. D. S. Fairchild, of Clinton. Dr. Fairchild has been honored on numerous occasions by the profession of his state, and has always made good. We predict for the Journal under his management a bright career, and certainly hope that much benefit will result from its establishment. The Journal contains in its announcement issue 56 pages, and is absolutely devoid of advertisements. It is clean and well printed, and does credit to the Iowa Society.

HOW BAD WE ARE; HOW GLAD WE ARE

The Illinois Osteopathic Association met July 24, 1911, at Chicago, with 100 members in attendance. Legislation was the principal topic of discussion. Pauline Mantle of Springfield read a paper on the history

of the legislative fight for recognition of osteopathy in the State of Illinois in 1911. Her paper showed the power and influence of the American Medical Association in politics in the State of Illinois; how they are trying to force on the people of this great commonwealth allopathic therapeutics and are using every sort of obstacle against all other systems of treating human ailments by sending out pledge cards to various candidates of the general assembly, urging them, under ban of being put on the black list, to support measures favorable to the American Medical Association, which they see fit and proper to introduce and to vote against all measures not to their interest.

R. E. Proctor read a paper on "Obstacles to Overcome in Legislation." He said the osteopaths must treat the "legislative problem" as a severe case of sickness, and insisted on the legislature giving the osteopaths, homeopaths and eclectics a square deal, and the people of the State of Illinois the right to choose their own therapeutics and physician.

The following officers were elected for the ensuing year: president, Emery Ennis, Springfield; vice-president, John Lucas, Chicago; secretary-treasurer, A. P. Kottler; Cannedy Wendell, Peoria, and E. R. Proctor, Chicago, trustees for two years.

THE SUPRARENAL SITUATION *

THE UNITED STATES CIRCUIT COURT UPHOLDS PRODUCT PATENT ON THE NATURAL ACTIVE PRINCIPLE

When Vulpian, a French chemist, in 1856 reported that the suprarenal glands of mammals contained a peculiar substance giving certain color reactions with ferric chlorid, iodin and alkalies, and quickly changing in contact with the air and on exposure to light, little might anyone have expected that fifty-five years later this peculiar substance would be the subject of a product patent.

In 1904 the H. K. Mulford Company placed on the market Adrin, its brand of epinephrin, the active principle of the adrenal gland, believing that the pioneer work done by von Fürth and Abel justified it in doing so—and that a product patent on the active principle existing in Nature could not possibly be upheld, particularly in view of the fact that its existence had been recognized for fifty years; that nearly all of its chemical reactions and properties were previously known and described; that its chemical nature had been accurately predicted; that its medicinal virtues had been discovered and put into practical use; and that it had been actually isolated in various degrees of purity in the form of a benzoylated derivative and in the form of a zinc and an iron compound.

The H. K. Mulford Company regarded its product as a substantially different product obtained by a substantially different process from those specified in the Takamine patent and did not believe that the latter

* Contributed.

could—if held valid at all—be construed to cover and include the Mulford product.

Moreover, the H. K. Mulford Company, recognizing that the first object of the patent law is to "promote progress in the sciences and arts," believed and still believes that the granting of product patents on medicinal substances, whether or not they exist preformed in Nature, are a hindrance to, rather than a means of, promoting progress in the practice of medicine, and used their efforts to defeat a product patent which it deemed to be not only contrary to the object and spirit of the patent law but contrary to the best interests of pharmacologic practice in the United States.

On April 29, 1911, Judge Hand, in the United States Circuit Court for the Southern District of New York, handed down a decision sustaining certain of the patent claims of Dr. Takamine and declaring H. K. Mulford Company products to infringe these claims.

The H. K. Mulford Company wishes to call attention to the fact that in defending these suits it has consistently and at great cost endeavored to uphold its antagonistic position toward the product patent for medicinal substances, believing that product patents on all substances used in medicine work an injustice on the medical and pharmaceutical professions and are inimical to the public good.

The court having decided that the manufacture of Adrin, the Mulford brand of epinephrin (the active principle of the adrenal glands), conflicts with the product patents granted to Takamine, the H. K. Mulford Company will discontinue its manufacture in the form of solution, tablets and hypodermics, until their appeal is decided in the higher court. Other preparations which have contained the Adrin brand of epinephrin will be prepared with an amount of purified extract of adrenals equivalent to the active principle contained in the glands.

NEWSPAPER CRITICISMS OF THE STATE BOARD OF HEALTH

It is a short week that does not bring out some criticism of the State Board of Health in the daily papers. No sooner does the criticism appear than *de facto* president George W. Webster and secretary James E. Egan get busy making their characteristic apologies and excuses for the Board. These usually take the form of the stereotyped confession and avoidance, which we have been hearing for so many years. How long is this state of affairs to exist?

FILES OF PUBLICATIONS OF THE ILLINOIS STATE MEDICAL SOCIETY

Acting on the instructions of the Council of the Illinois State Medical Society, the editor has deposited in the fire-proof stacks of the Lincoln Library at Springfield, all the publications of the Illinois State Medical Society, which he has been able to collect. The series is complete

with the exception of the Transactions for 1855, 1877, 1878. Dr. William O. Ensign of Rutland has a copy of the Transactions of 1855, which he has promised for this file. Any members knowing of copies of the other missing Transactions will confer a favor by informing the editor of their whereabouts, and the possibility of obtaining the same. In order that it may be made a matter of record for the information of all concerned, we append herewith the formal statement of the transfer of these volumes, signed by Henry C. Remann, Librarian of the Lincoln Library, and the Editor. The only other complete file of these volumes is the one in the Crerar Library, Chicago. It has been suggested that a complete index of all these publications be made and furnished each member free of cost. We should be pleased to hear from the members regarding this.

SPRINGFIELD, ILL., July 20, 1911.

The following volumes of the Transactions of the Illinois State Medical Society, and of the ILLINOIS MEDICAL JOURNAL, have been deposited in the Lincoln Library, Springfield. They are the property of the Illinois State Medical Society, and subject to the order of the officers of that organization:

One volume labeled Proceedings 1850-54	ILLINOIS MEDICAL JOURNAL, VOL..... 1
One volume labeled Proceedings 1856-59	ILLINOIS MEDICAL JOURNAL, VOL..... 2
One volume labeled Proceedings 1860-63	ILLINOIS MEDICAL JOURNAL, VOL..... 3
One volume labeled Proceedings 1864-65	ILLINOIS MEDICAL JOURNAL, VOL..... 4
One volume labeled Proceedings 1866-67	ILLINOIS MEDICAL JOURNAL, VOL..... 5
One volume labeled Proceedings 1868-69	ILLINOIS MEDICAL JOURNAL, VOL..... 6
One volume labeled Proceedings 1870-71	ILLINOIS MEDICAL JOURNAL, VOL..... 7
Single volume.....1872	ILLINOIS MEDICAL JOURNAL, VOL..... 8
Single volume.....1873	ILLINOIS MEDICAL JOURNAL, VOL..... 9
Single volume.....1874	ILLINOIS MEDICAL JOURNAL, VOL..... 10
Single volume.....1875	ILLINOIS MEDICAL JOURNAL, VOL..... 11
Single volume.....1876	ILLINOIS MEDICAL JOURNAL, VOL..... 12
Single volume.....1879	ILLINOIS MEDICAL JOURNAL, VOL..... 13
Single volume.....1881	ILLINOIS MEDICAL JOURNAL, VOL..... 14
Single volume.....1882	ILLINOIS MEDICAL JOURNAL, VOL..... 15
Single volume.....1883	ILLINOIS MEDICAL JOURNAL, VOL..... 16
Single volume.....1884	
Single volume.....1885	
Single volume.....1886	
Single volume.....1887	
Single volume.....1888	
Single volume.....1889	
Single volume.....1890	
Single volume.....1891	

Single volume.....1892	ILLINOIS MEDICAL JOURNAL,
Single volume.....1893	VOL..... 17
Single volume.....1894	ILLINOIS MEDICAL JOURNAL,
Single volume.....1895	VOL..... 18
Single volume.....1896	
Single volume.....1897	Missing are Transactions of
Single volume.....1898	1855, 1877 and 1878.

Signed, HENRY C. REMANN, Librarian,
GEORGE N. KREIDER, Editor.

THE LEAGUE FOR MEDICAL FREEDOM EXPOSED

Collier's National Weekly prints the following editorial in its issue of June 3, 1911:

LIBERTY

Protests from readers have greeted our criticism of the League for Medical Freedom. Also a protest is telegraphed from the California branch of the league. In the minds of most of those who protest, the principal objections are to the following positions taken by us: 1. That the league contains the kind of men who opposed the Pure Food Act. 2. That the activities of the league are against public welfare and frequently surreptitious. Our answer follows:

1. B. O. Flower, one of the nine founders of the league, and now in his second term as president of it, was president of "the R. C. Flower Medicine Company" from 1885 to 1899. R. C. Flower is the notorious quack and general humbug whose latest arrest was as late as 1908. B. O. Flower wrote the league's pamphlets on "Bubonic Plague" and "The Compulsory Medical Inspection of School Children." His views on patent medicine are often expressed. For instance:

> I believe that a great majority of the proprietary medicines are infinitely less dangerous to the public than the majority of regular doctors' prescriptions.

2. C. W. Miller, second vice-president of the league, was also one of the founders. In his newspaper, which publishes patent medicine advertising, he has constantly fought the medical profession. Last year one of his addresses against what he calls a "doctor's trust" was delivered to the Dairy Association in Baltimore. We may say in passing that *Collier's* does not believe in freedom to sell tuberculous milk any more than it does in freedom to sell tuberculous meat.

3. Mrs. Diana Belais, a director and also a founder, has appeared before in this paper as president of an anti-experiment society, a well-meaning, ignorant, reckless, and muddle-headed agitator. We are officially informed by the chairman of the "committee on publicity and education" of the league that Mrs. Belais was made a director "because of her courageous efforts to secure a higher law in New York State than the doctors' cruel theories and professional arrogance." Here's to anti-experiment, meningitis, diphtheria, and freedom!

4. Dr. C. S. Carr, who is on the advisory board, edits a pseudo-medical sheet. *Collier's* long ago printed a letter signed "The Peruna Drug Company, per Carr." As editor of "Medical Talk for the Home," he carried advertisements of many of the medicines exposed in *Collier's*

in our series on "The Great American Fraud." He is now editor of the Columbus *Medical Journal*, which he at once turned from an ethical sheet into a sheer fraud. Look at the issue of May, 1909. On the front cover is a picture of Carr himself writing: "All drugs are poison. All druggists are poisoners." On the reverse side is an advertisement beginning: "Prescribe Antikamnia and Codein tablets in la grippe, headaches, etc." Hurrah for freedom and Peruna!

5. George P. Englehard, who is on the advisory board, has for a long time in his journals defended the patent-medicine interests.

6. Charles Huhn, also a member of the board, is a prominent officer in a cooperative patent-medicine concern.

7. Another founder was a member of the advertising agency which is now spending for the league the money which it puts into its advertising campaigns.

The league says it did not oppose any "sanitary or quarantine laws." This statement requires some hardihood, as the hearings of the Senate Committee on Health, and more especially of the House Committee on Foreign and Interstate Commerce, show. It would interest us to know whether the league can point out a single health bill introduced in Congress which it has not opposed. When the leaders wish to oppose a sanitary or quarantine law they do it on the ground that such a law would *indirectly* "lead to compulsory and discriminatory legislation."

The league was nominally born recently, but those who make it up had already as individuals, and even as organizations (such as the Colorado League for Medical Liberty) opposed State and National legislation. A pamphlet published by the Colorado branch singles out *Collier's* for attack, and was written by a notorious quack doctor. In California, which was the special theme of our former editorial, if the league should prevail, the next threat of bubonic plague would be carried out, instead of being suppressed like the last; smallpox might again become a serious epidemic; school children would bear their ills as best they might. A bill was introduced ordering that the Board of Health be composed of two "allopaths" (a school which does not exist but is a hostile term for regular physicians), two homeopaths, two "eclectics," two osteopaths. It did not pass!

Some leading homeopathists and osteopathists, be it said, are in favor of a national health bureau and strongly against the agitations of the league. Dr. Francis B. Kellogg, president of the California State Homeopathic Society, in an address recently said: . . . "In my opinion there is an effort being made to exploit the homeopathic profession by influences and interests which are indirectly but radically opposed to the welfare not only of practitioners of medicine in general, but to that of humanity itself. I refer to the effort to enlist homeopathic support for the so-called National League for Medical Freedom."

Plato complained that in his day doctors made too sharp a distinction between the body and the mind. In our day the best class of physicians frequently recommend faith cure and Christian Science, and the Emmanuel movement is an indication that it is possible for science and religion to work together in healing. Few mere observers rate the benefits that Christian Science has brought to the community more highly than we do. A belief which so frequently brings about an actual improvement in character, disposition, bodily health, and mental atmosphere, deserves the most serious recognition, even by those who regret its

hostility to the progressive science of medicine. It is possible, at times, for clever designers to use members of any faith for disastrous purposes. When R. C. Flower was at the height of his career, in 1907, as manufacturer of diamonds, vender of fake mining stock, wearer of most ingenious disguises, traveler under assumed names, and general artist in gold bricks, he conceived the idea of playing for profit upon the earnest beliefs of the followers of Mrs. Eddy. One of his accomplices, a woman, who also used an assumed name, worked the game with him, and when Dr. Flower, alias Mr. Cortland, took up the cudgels in defense of Christian Science, without being requested to do so, he said:

> Not that I am one of its disciples, but I like to see every one FREE TO PRACTICE MEDICINE AS HE WISHES.

Here we have the very words themselves from old Doc Flower. Up with freedom!

Everybody who believes in "freedom" in medicine is within his natural and political rights in supporting this league. *Collier's*, not believing in this species of "freedom," is also within its rights in treating the league as a menace, the make-up, bias, and purpose of which ought to be fully understood.

Correspondence

DR. SIDNEY KUH AND CRITICISM

To the Editor:—In the April number of the ILLINOIS MEDICAL JOURNAL Dr. Sidney Kuh published a personal attack on me of a very serious nature, to which I beg your leave briefly to reply. I might in the first place remark that it is customary for the writer to see that the subject of such an attack gets to know of it. Dr. Kuh has omitted this simple courtesy, and it was only this week that I happened to read his communication.

The gravamen of his charge is that, in sending to press a statement of my contribution to a discussion at the Chicago Medical Society meeting, I falsified this, it being broadly hinted that I did so in order to cloak the supposed faults I had committed when speaking. Now, it is perfectly true that what I sent to press was not word for word identical with the stenographic record submitted to my correction, but this for the obvious reason that it was impossible to do otherwise. Anyone who has had experience of such records of scientific meetings will know how commonly they are erroneous, sometimes to a ludicrous degree. In this particular instance the report submitted to me was in several respects seriously distorted, and was in places totally unintelligible. In saying so I do not wish in any way to reflect on the efficiency of the stenographer, for I am willing to impute all the errors to the fact of my English speech being foreign to him (or her). But—and this is the important matter—I desire categorically to state that without exception all the material sent to press was spoken by me at the meeting, and was contained, however roughly, in the stenographic report submitted to me; further, that from this report I omitted only one passage, which will

presently be mentioned together with my reason for omitting it. Under these circumstances, Dr. Kuh will perhaps understand that until he has publicly withdrawn his charge, with due apology, he may feel sure of having the field to himself so far as I am concerned in any future controversy.

A few words may be added on the individual points he raises. In his discussion of my paper at the meeting he criticised a certain passage under the mistaken impression that I had referred to tabes. To this I remarked, in closing, that his inaccuracy here was characteristic of his other criticisms, inasmuch as I had not mentioned the subject of tabes. This passage I omitted in the press account, for the simple reason that it was not germane to psycho-analysis, the matter under discussion. On thinking it over since, Dr. Kuh comes to the conclusion that he had made only a verbal slip, and writes (p. 505): "The truth of the matter is, that he (Dr. Jones) had not used the word tabes, but rather the term locomotor ataxia." In questioning whether my denial comes within the range of justifiable criticism he caustically remarks: "Since the learned gentleman from Toronto is director of a clinic for nervous and mental diseases, it seems hardly possible to assume that he is unaware of the fact that the two terms are synonymous." To which I have to say that here Dr. Kuh has rashly given us another edifying example of the level of his scientific accuracy, for I mentioned *neither* tabes *nor* locomotor ataxia. When my paper appears in print—a copy of it was sent for publication to the *American Journal of the Medical Sciences* the week before it was read at Chicago—Dr. Kuh will perhaps admit to himself at last that he has made a mistake.

Dr. Kuh defends his criticism of the "Frauenzimmer" and "umbrella" symbolisms, and instructs me to read again Hitschmann's book where they are mentioned. But I never denied that they are to be found in Hitschmann; indeed I would be the last person to doubt the occurrence of such symbolisms, as I have often met with them myself, and as the occurrence of them may easily be demonstrated beyond all doubt by a reference to everyday slang and jokes. What I protested against was the view Dr. Kuh put forward as to the way in which Freud arrived at the interpretation of them, which can only be described as an ignorant caricature of Freud's method of reasoning. I need only repeat my former passage (p. 382) to show that Dr. Kuh quite misses the point of my criticism: "Dr. Kuh says that he cannot agree with the logic of Freud's arguments that *because*[1] the word "Frauenzimmer" in German means woman, *therefore* to dream of a room indicates a sexual thought, and that *because* Freud sees a resemblance between a raised umbrella and an erect penis, *therefore* to dream of an umbrella also indicates something sexual. I surely need hardly say that Freud has never said anything resembling this."

I do not propose to attempt to unravel the confusion in Dr. Kuh's mind on the subject of the unconscious. It is well illustrated by his closing remark on it (p. 507): "I spent a pleasant hour or so attempting to understand how the subconscious (or is it unconscious?) life can

1. Not underlined in the original.

be traumatized (sic!) at a time when it does not exist. I must confess myself incapable of performing the necessary mental acrobatics." I will only say that he might have saved himself this hour of fruitless effort by half a minute's conversation with anyone to whom the subject is familiar, for he would then have learned that a trauma can be inflicted on the conscious mind in early childhood, the memory of which later becomes buried by repression, and therefore unconscious.

Dr. Kuh complains of my "rather severe arraignment" of his criticisms. When, however, someone is invited to open a discussion on a subject of which he has, to say the least of it, a very imperfect comprehension, he deserves a much more severe arraignment than it is in my power to draw up if he misuses the occasion by distorting the views presented in the paper read, so as to compass a grotesque caricature of them that lends itself to cheap ridicule. The apologies for Dr. Kuh's discourteous behavior that I received on the evening of my paper partly reconcile me to the regret I feel at having been obliged to wound his *amour propre*.

I am, etc.,

June 5, 1911. ERNEST JONES.

DR. LYDSTON'S DISCLAIMER

CHICAGO, ILL., July 3, 1911.

To the Editor:—Kindly take notice that the book published by one A. V. Harmon and one W. J. Jackman, under the name of "Large Fees and How to Get Them," of which I am alleged to be a joint author, is, so far as the use of my name is concerned, a forgery. All persons selling or circulating same, or advertising or reviewing the book in connection with my name, do it at the risk of legal complications. Other journals please copy, and oblige, G. FRANK LYDSTON.

To the Profession:—Any physician receiving circulars advertising a book published by one W. J. Jackman and purporting to contain an introductory chapter by me, will confer a favor by sending such circulars with the envelope in which they were received to me.

G. FRANK LYDSTON, M.D.

THE JOURNAL IS A GOOD MEDIUM

HOUSE OF REPRESENTATIVES, WASHINGTON, D. C.,
SIXTY-SECOND CONGRESS, June 19, 1911.

To the Editor:—I had no idea your MEDICAL JOURNAL had such a circulation. It seems to me that every doctor in the county has written me for a copy of Bulletin No. 391, and it is all due to your "ad." It was my intention to limit the circulation of it to my own district, but I would not be surprised now to get a request from Jericho or Jerusalem, or any other old place. I will fill all M.D. orders which come in on your account, but for the Lord's sake don't keep the notice in your paper. Take it out quick. Let me know when I can do anything for you here.

Very sincerely yours, JAMES M. GRAHAM, M.C.

GEO. N. KREIDER, M.D., Springfield, Ills.

COUNTY AND DISTRICT SOCIETIES

COLES COUNTY.

The Coles County Medical Society met in Charleston, July 11, 1911, at 7:30 p. m., at the First Presbyterian Church. The following were in attendance: Drs. McDonald, Ferguson, Coultas, Voight and Freeman, all of Mattoon; H. B. Vannatta of Lerna; Harwood, of Jaynesville; Zepin, Webb, Montgomery, Iknayan, Dudley and Craig of Charleston.

The program was as follows: A paper on "Puerperal Sepsis," by Dr. H. B. Vannatta, of Lerna. Discussion by Drs. Bell and A. T. Summers, of Alexander. Report of Illinois Medical Meeting, by R. J. Coultas, Mattoon. At the close of the program the entire party adjourned to Humphrey's Confectionery, where refreshments were served.

CRAWFORD COUNTY

The annual meeting of the Crawford County Medical Society was held July 13, at the office of Dr. C. E. Price, in Robinson, Ill. The meeting was called to order by the president, Dr. J. W. Carlisle, and the minutes of the previous meeting were read and approved. The following members were present: Drs. Kirk, Davis, Kasdorf, H. N. Rafferty, Firebaugh, T. N. Rafferty, Dunham, Brooks, Price, Martin, Henry, Carlisle and Lowe. The annual reports of the secretary-treasurer were read, and upon motion duly seconded and carried were accepted by the society.

The following motion was made, seconded and carried: That the members of the society be notified by the secretary of their financial standing in the society and members whose dues are not paid before the state dues are paid be dropped from the society.

The following officers were elected for the ensuing year: President, G. H. Henry; vice-president, G. C. Kasdorf; secretary-treasurer, A. Lyman Lowe; censors, C. E. Price, Frank Dunham, C. H. Voorheis; delegate, C. E. Price; alternate, J. W. Kirk.

The election of officers was followed by a paper on "Rabies," by Dr. G. H. Henry, of Oblong. The paper was interesting and the subject was very well handled, the writer going into detail regarding the prophylactic treatment and preparation of the serum. Upon motion the paper was received for discussion, which was led by Dr. Firebaugh and was indulged in to some length by the various members of the society. This was followed by a paper by Dr. Kasdorf on "General Anesthetics," which was instructive as well as very interesting. Upon motion the paper was received by the society for discussion which was led by Dr. Newlin and participated in by the different members.

Dr. H. N. Rafferty presented two very interesting specimens, one of probable tubercular testicle, the other a probable ovarian pregnancy. A motion to increase the annual dues from $3.50 to $5.00 was tabled. Upon motion duly seconded and carried the society adjourned. H. Lyman Lowe, Secretary.

JACKSON COUNTY

The June meeting of the Jackson County Medical Society was held in the parlors of the Methodist Church at Carbondale, Thursday, June 22, 1911. Doctors present were: Barrow, Etherton, Whitacre of Carbondale; Ormsby, Sabine, Essick of Murphysboro; and Dr. House of DeSoto. Dr. Barrow reported

a case of "Melena Neonatorum," which was ably discussed by those present. A committee of three was appointed by the chair to consult with the States Attorney and correspond with Dr. Egan with a view to prosecuting one L. Haskill of Murphysboro, whose neglect and magnetic healing failed to cure a case of diphtheria, and who did not use quarantine or preventives for the community. The meetings were changed from monthly to quarterly.

MADISON COUNTY

The Madison County Medical Society met in Alton, July 7, 1911, with Dr. W. H. C. Smith, president, in the chair. The following members were present: Drs. Hirsch, Wedig, Sutter, Yerkes, Wahl, Pfeiffenberger, Ihne, Hastings, Halliburton, Smith, Schreifels, Ferguson, Armbruster, Burroughs, J. H. Fiegenbaum, Duggan, Taphorn and E. W. Fiegenbaum. Dr. W. O. Fish of Alhambra was duly elected to membership. Dr. A. J. Ihne, of Fosterburg read a paper on "Typhoid Fever." Dr. J. A. Hirsch, of Edwardsville, followed with a paper on "Diet in Typhoid Fever." Both of the papers were strictly up to date scientific reviews of our present knowledge of this disease. The discussion was enthusiastic and participated in by a large number of those present. The use of antityphoid vaccination was thoroughly exploited and highly commended both in a prophylactic and curative way. Expressions of sympathy were conveyed to Dr. I. J. Beard, of Godfrey, who is undergoing an operation in a St. Louis hospital.

The society heartily endorsed the movement to locate the new state hospital for the insane in Madison county and instructed the secretary to convey the action of the society to the State Board of Administration and to sign the name of every member to the communication. Also to write to Governor Deneen asking him to use his influence to have the hospital located in this county.

This society does not adjourn on account of hot weather, but will hold its regular monthly meeting at Granite City, August 4, 1911.

E. W. Fiegenbaum, Secretary.

TYPHOID FEVER

A. J. Ihne, M.D., Fosterburg, Ill.

Typhoid fever, an acute infectious disease caused by the bacillus of Eberth, was known beyond the reach of tradition, but was not clearly distinguished from typhus until 1830 to 1850. Gerhard of Philadelphia called attention to the features which distinguish the two diseases. His account was corroborated by Hale and Jackson. Later Shattuck, of Boston, and Jenner, of London, made important contributions to the subject.

The lesions produced by typhoid fever may be placed conveniently in two groups, viz.:

Primary lesions due to the direct effect of the bacilli on the lymph follicles of the intestines, the mesenteric glands and the spleen.

Secondary lesions due to the long continued fever and to secondary infection.

The lymph follicles become enlarged. From the eighth to the twelfth day the stage of infiltration terminates either in resolution or in necrosis and sloughing. This necrosis results partly from compression and choking of the blood-vessels by cell infiltration, and partly from direct action of the typhoid bacilli. The depth to which the necrosis extends varies. It may extend to or even perforate the serous coat. This necrosed portion becomes detached leaving the typhoid ulcer. In the separation of the sloughs when a vessel is eroded we have hemorrhage. Simultaneously with these changes in the intestine, the mesenteric glands and spleen are enlarged. There is also a catarrhal inflammation of the gall-bladder.

The secondary lesions due to continued fever and secondary infection are found in the liver, kidneys, heart, lungs and arteries. The bacillus which is the specific cause of typhoid fever was discovered by Eberth in the early 80's. Its habitat in the body is in the intestinal tract; the spleen, the liver, the gall-

bladder, the lymph-glands, the blood, the urine, the sputum, the sweat, the vomitus, and the rose colored spots. Outside the body it cannot maintain a permanent existence. It is found in the water, in the milk, and in the soil. Freezing does not kill it, but boiling destroys it. Typhoid usually occurs in young and robust individuals between 15 and 35 years of age, though cases occur in the very young and old.

The occurrence of typhoid fever confers an approximate, though not an absolute immunity against subsequent attacks. In the vast majority of cases the bacilli are swallowed, though it must be conceded that the bacilli may reach the blood-stream through the respiratory organs. The incubation period of typhoid fever ranges from ten days to three weeks. The patient complains of headache, nausea, constipation, bad taste in the mouth, of being feverish, and an occasional nose-bleed. The fever rises day by day until at the end of the first week it reaches 104° or 105° F. The pulse varies from 85 to 120 per minute. The abdomen may be slightly distended.

From the seventh to the twelfth day the characteristic eruption makes its appearance. It consists of distinct, slightly elevated, rose colored spots, appearing in crops of six to twelve and remaining for three or four days. They disappear on pressure but reappear when pressure is removed. These spots are to be found upon the upper part of the abdomen, or lower part of the thorax, although they may appear on the back, sides, or limbs. The fever now remains at 102° to 105° F. for a week or ten days. Headache and prostration are severe. The patient is restless and delirium may be present. The constipation of the first week has been succeeded by a diarrhea. The stools number from three to ten in 24 hours. The severity of the diarrhea depends largely on the degree of catarrh present, particularly in the large intestines, and on the method of feeding. The stools are offensive, ochre-yellow in color, resembling pea-soup, and may be streaked with blood. On standing the stool separates into two layers; an upper, liquid, cloudy layer, and a lower, thick yellow layer containing remnants of food and necrotic crusts of Peyer's plaques. The tongue is dry and coated; sordes collect on the teeth and lips. Retention of urine is common. The morning temperature may be one or two degrees lower than the evening temperature.

At this time, a sudden drop in temperature may be the result of hemorrhage or the occurrence of peritonitis; if hemorrhage the blood appears in the stools from 6 to 12 hours later. In females abortion or premature delivery produce a drop in temperature. The abdomen may be distended and tender. Pressure in the right iliac fossa elicits gurgling sounds. The patient has a short cough, and on auscultation distinct bronchial râles are heard. During the fourth week the fever remits; the morning temperature soon becomes normal and the patient passes into a slow convalescence.

The diagnosis of typhoid fever is comparatively easy in a well defined case. It depends on the Widal reaction, of which we will hear more directly; the step-like temperature record, the rose colored spots, and the characteristic diarrhea. On the other hand it is often impossible to diagnosticate typhoid fever with absolute certainty until the case is well advanced. In such instances the occurrence of intestinal hemorrhage, or a characteristic decline by lysis is helpful.

The prognosis depends, first, upon the severity of the type of infection. A temperature of 104° to 105° F. for four to six days and a pulse rate remaining at 130 or more are dangerous signals. Second, upon the circumstances of the patient. At 40 years and over the system has less resisting power. The poorer the sanitary arrangements, the more unfavorable the prognosis. The puerperal state renders a typhoid patient liable to many accidents. Third, upon the absence or presence of dangerous complications.

What measures have we at our command to prevent typhoid fever? As we look to water as our big source of infection our first thought is the purification of water. This is a problem which is giving the sanitary officers and Boards of Health many anxious hours. In the smaller cities and rural communities, we have to use different means. The present water supply should be examined and

if found impure, a new source of water should be secured. This is often not possible. Then we advise the killing of the bacilli by thorough boiling of all water used, whether for drinking, cooking, or washing. Washington, D. C., was a large typhoid center, and sanitarians said it was due to polluted water. A new slow sand filter was installed and the typhoid rate was higher than for the three preceeding years.

Better reports come from Albany, Columbus, Philadelphia, and Richmond. If we fail to find the source of the infection in the water, we had better look for a typhoid carrier. When found we have a still harder proposition to deal with than infected water. Unless he is of broad mind, we are almost helpless.

Our farm-yards need attention as to drainage and cleanliness. Our vegetables and fruits should not be exposed to infection by the fly that has just left the vault, the barn-yard, or the garbage can.

Anti-typhoid inoculation is giving good results in the United States Army as well as in the British and German Armies. Frankel in 1893 and Pfeiffer in 1896 were among the first to advance the vaccine theory. Since then rapid strides have been made in anti-typhoid inoculation. Recent orders from the War Department make possible compulsory vaccination of an entire garrison in the presence of an epidemic of typhoid fever. In 1909 and 1910, Spooner of the Massachusetts General Hospital called for volunteers among the nurses and ward attendants and had not a single bad result and only a few severe reactions.

Results: 1910 was the first year that no typhoid fever originated in the institution. Dr. Stone of Toledo, Ohio, reports the successful treatment of a typhoid carrier by vaccine. In this case the bacilli disappeared completely from the urine after six inoculations.

According to Gosman of the United States Army, three injections are to be administered. The first dose consists of 500 million. In ten days a second dose of one billion, and in ten days the third dose of one billion.

Anders of Philadelphia in a paper on "The Use of Typhoid Vaccines in Typhoid Fever" read at the 61st Annual Session of the American Medical Association in St. Louis, 1910, concludes his paper as follows: "Finally, in the present state of our knowledge, the value of vaccines for the following purposes must be conceded: 1, as a means of prophylaxis; 2, in suitable cases when continued during convalescence, to prevent relapse; 3, to combat local infections with the typhoid bacillus, as for example, bone suppurations which arise in the period of convalescence, and 4, for the removal of the typhoid bacilli from the feces and urine in the case of typhoid carriers."

The disinfection in typhoid is that of the excreta, the bed and its coverings, and that of the patient and sick room. The disinfection of the excreta is most frequently overlooked or carelessly performed. The vessel should be such that it can be thoroughly disinfected inside and out. It should at all times contain enough of the disinfectant to cover the discharge. Six ounces of the chlorid of lime to one gallon of water is the best solution. Bichlorid of mercury, 1:500, is used or a 5 per cent. solution of carbolic acid.

The bed and body linen should be changed daily, and as often as soiled. The sheets, blankets, and body linen should be boiled for 30 minutes. The mattress should be covered with a rubber sheet. This should be washed with the carbolic acid solution. The patient receives his bath daily and after stools he should be cleansed with cloth or cotton compress wet with solution of mercuric chlorid or carbolic acid. The room should be light and well ventilated. Sheets or mosquito netting should be over the inner openings, these to be kept moist with the solution. If the patient complains of light hurting the eyes, I have placed a light colored parasol so as to protect the eyes.

There is no specific line of treatment in typhoid fever. An appropriate liquid diet is the best. Milk diluted with plain or lime water. Curds in the stool indicate more dilution, or the peptonizing of the milk. Even then it may not be tolerated by the patient. Then we may try butter-milk, whey or sour milk. Meat juices, broths, or one of the infant foods prepared with water. Albumin

water is acceptable to many. Stimulants may be required in severe types, whiskey spurs the flagging heart and combats the nervous symptoms due to typhoid intoxication. Strychnin and the aromatic spirits of ammonia are valuable aids. The intestinal antiseptics are the sulpho-carbolates, arsenite of copper and salol. If meteorism is a prominent symptom, turpentine is indicated.

For the control of the temperature, the cold bath has the endorsement of the profession. When temperature registers 102° F. the patient should be lifted by the aid of sheets and placed in a tub of cold water. The temperature of bath varies from 90 down to 70 according to the patient. An ice cap should be worn and while in the bath the patient should be rubbed. Five to fifteen minutes in the bath should reduce the temperature 2 or 3 degrees. The patient should be placed in bed, dried and covered with a light blanket. If chilly while in the bath or immediately afterward, a little brandy should be administered. In children the cold pack is often better borne than the tub bath. Sponging the body with water and alcohol, where the full-bath is contraindicated as in intestinal hemorrhage, extreme cardiac weakness and peritonitis is a fairly satisfactory substitute.

In the Johns Hopkins Hospital since September, 1908, they have been adding one pound of alum to each tub of water. This on account of the antiseptic properties, and its tendency to precipitate organic matter. It also exerts some tanning or hardening influence on the skin. It is claimed that this is a great prophylactic against the numerous skin infections. The coaltar products should not be used, for they depress cardiac power.

The cold baths and ice cap usually relieve the headache, delirium and insomnia. For the early constipation calomel, followed by the saline laxatives, gives good results; later, colonic flushing is safer. Hemorrhage demands absolute rest and if severe the saline infusion, either by the intravenous injection, hypodermoclysis or enteroclysis, morphin to control peristalsis, and the ice bag to right iliac region, food withheld for 18 to 30 hours. Peritonitis when due to perforation demands surgical intervention within 24 hours or patient passes quickly beyond hope.

Diarrhea calls for special attention when stools exceed three or four in 24 hours. Bismuth, acetate of lead and opium should be given. Late in the disease rectal injections containing the astringents alternating with the antiseptics give brilliant results.

On March 31, 1908, I was called to see Mrs. R., a robust woman in the 50's. Had the usual diseases of childhood, but no severe attack of sickness since 14 or 15 years of age. Had been sick 10 days. She complained of nausea, headache, tired feeling, nose bleed, bowels moving freely and very offensive. Temperature 101.5° F., abdomen distended and very tender. Pulse slightly accelerated, tongue coated. Urine showed traces of albumin by Heller's test. It looked like typhoid to me. Temperature never exceeded 102 and the greater part of the time was absolutly normal. I sent a specimen of her blood to the State Board of Health and their reply was a positive reaction. During the next three weeks stools were the typhoid stool, as to consistency, number, odor, and color. Patient was dismissed.

In closing allow me to call your attention to the editorial in the *Jour. A. M. A.* of June 24, 1911, on "The Present Status of Antityphoid Vaccination," in which it is stated that typhoid was sixteen times greater among the unvaccinated than among the vaccinated troops. During the Spanish War there were 20,738 cases with 1,580 deaths, or one man in every six had the disease, and this was increased to one in every five among those regiments which were left in the United States.

President Taft, in an address delivered to the Medical Club of Philadelphia, declared that of the 18,000, who have been on the Mexican Border for over two months, only one man, a teamster unprotected by vaccination, contracted typhoid fever.

DIET IN TYPHOID FEVER

J. A. Hirsch, M.D., Edwardsville, Ill.

Diet in typhoid fever is a subject upon which nearly all physicians are agreed, inasmuch that all food taken by typhoid fever patients should be easy of digestion and assimilation. There should be a maximum of nutriment with a minimum of residue. It is not necessary, however, to feed these cases on an exclusive liquid diet. Milk, when well tolerated, may be relied upon as the chief article of diet. Some patients relish milk and will take it at frequent intervals and in sufficient quantities to maintain proper nourishment. It will be found, however, that the majority of patients tire of an exclusive milk diet in a short time, and some develop a positive disgust for this article of diet.

What is to be done in the way of properly nourishing these cases? The only solution of this problem is a varied dietary. It will be found that, as a rule, patients do much better on a varied dietary than on one consisting exclusively of liquids. When fed more liberally, the patient's strength and vitality are better sustained, there is less emaciation, convalescence is materially shortened and there is not that ungovernable and ravenous desire for food during the convalescent stage.

It must be remembered, however, that wise discrimination and judgment are required in the feeding of these cases. The patient should be fed with reference to his digestive powers. Milk may be given hot or cold diluted with lime water or barley water. If the patient's digestive power is very weak the milk may be peptonized or some of the prepared milk foods may be given. Whey and buttermilk make an excellent addition to the liquid dietary. Well strained vegetable soup has a certain food value and it may be thickened with browned flour. Well cooked powdered rice and arrowroot are excellent foods.

The following articles of diet may be given in the average case with entire safety: strained corn meal gruel, barley gruel, soft crackers, toast with milk, soft boiled eggs, raw egg-nog, gelatin, finely minced lean beef, scraped beef, custards, soft puddings without raisins, corn starch pudding, jellies, apple sauce, junket, ice cream, fruit juices and other well prepared articles of diet which do not tax the digestive powers of the patient.

More reliance should be placed in the patient's general condition, appetite and digestive powers as to the variety and quantity of food permissible than on the temperature curve. We must individualize our cases in the matter of feeding, ever remembering that the digestive powers are more or less crippled, and feed the patient according to his individual capacity of digestion and assimilation; and at the slightest evidence of digestive disturbance, reduce the quantity and variety of food.

It is never advisable to give alcohol in these cases except under certain conditions and indications. During the convalescent stage when there is great prostration, or in feeble people, or in those accustomed to the use of alcoholic beverages it is frequently advisable to give alcohol in some form.

Whiskey, champagne or Tokay wine are of value when stimulants are indicated in these particular cases. When given in sufficient amount and on proper indications they, to a certain degree, serve the purposes of a food and supply a certain amount of heat by stimulating circulation, respiration and digestion. Champagne is usually well tolerated in irritability of the stomach.

Some cases will be encountered where the digestive power is very weak and where nothing is well tolerated except the raw white of egg dissolved in ice water. In severe cases where the intestinal glands are universally involved this makes an ideal food as it does not require digestion and may be given every two to four hours. In these extreme cases where more nourishment is required, coffee with cream may be given alternately, or freshly pressed grape or other fruit juices. In these cases plenty of water must be prescribed in regular doses as the patient is not likely to ask for it and the inexperienced nurse will forget it.

During the convalescent period of these severe cases, great care must be exercised in feeding. New foods should be added slowly and singly and their effects

watched. These patients are likely to have a voracious appetite during this stage of the disease and great care, judgment and discrimination must be used in gradually adding solid foods to the diet, lest disastrous results ensue through irritating the unhealed ulcerated surfaces of the intestines by undigested solid particles of food or the distention of gas.

When diarrhea is present a gruel made of browned flour will be found excellent in checking the too frequent bowel movements. When milk curds are seen in the feces or if there is other evidence that milk is not well tolerated, whey and junket make very good substitutes for milk. Animal broths should not be given when diarrhea is present as they are likely to aggravate this condition.

To recapitulate: Only foods which are easy of digestion and assimilation and which leave the smallest amount of residue to form feces should be given.

The patient's excretions should frequently be inspected for any evidence of digestive disturbance, and if any symptoms develop indicating that he is being fed too liberally, a more restricted diet should be ordered.

The patient should be fed with regularity and restricted as to quantity, not changing from one article of diet to another promiscuously. The best results are obtained by selecting the food best adapted to the case and administering three or four ounces every two to four hours. Other articles of food mentioned may be given two or four times daily for the sake of variety, if well tolerated.

Endeavor should be made to so regulate the quantity and variety of food in each individual case as to sustain the patient's strength as much as possible and keep his vitality at the highest possible point; neither over-feeding with its attendant dangers of causing digestive disturbance, bowel irritation and distention; nor underfeeding, thus forcing Nature to draw too strongly upon the patient's surplus vitality and stored-up fat, with its attendant dangers of great emaciation, general weakness and prostration.

SANGAMON COUNTY

The regular monthly meeting of the Sangamon County Medical Society was held at the Lincoln Library, June 12, at 8:30 p. m. Dr. George T. Stericker, president, in the chair. Dr. J. R. Neal was appointed secretary pro tem. The reading of the minutes of the previous meeting was dispensed with. The president appointed as the committee on arrangements for the next annual meeting of the Illinois State Medical Society, which will be held in Springfield the third Tuesday in May, 1912: Drs. G. N. Kreider, L. C. Taylor, C. M. Bowcock, C. L. Patton, H. T. Morrison.

The address of the evening was on "Diagnosis of Obscure Diseases of the Chest by Means of the Roentgen Rays," by Drs. William Engelbach and R. D. Carmen, of St. Louis. The valuable address and stereopticon views were of more than usual excellence, and were discussed by many of the members. The society unanimously voted not to have the photographs of the members placed in the anniversary number of the Illinois State Register.

The society adjourned to meet the second Monday in September.

J. R. NEAL, Secretary pro tem.

ST. CLAIR COUNTY

The regular meeting of the St. Clair County Medical Society was held at Priester's Park, July 8, 1911, with the following officers and members present; C. S. Skaggs, president; A. E. Hansing, treasurer; and members H. A. Cables, G. C. Otrich, E. R. Duey, C. G. Rayhill, G. E. Hilgard, E. H. Lane, C. W. Lillie, R. H. Campbell, Thomas Hagarty, L. T. Miller, A. B. McQuillan, W. S. Wiatt, H. C. Fairbrother.

The society was called to order by the president and C. W. Lillie was selected as secretary pro tem. Owing to absence of the secretary the reading of minutes and the business session were dispensed with. Dr. Hilgard reported a case of

extrauterine pregnancy and presented the specimen showing the membranes with fetus intact, with the tube through which the rupture had occurred, the rupture being near the fimbriated extremity. Dr. Hilgard also presented a second case with rupture of tube with the result that the patient had very copious hemorrhage into the peritoneal cavity. He also showed a specimen of placenta with two separate sacs with their contents, the sacs being unruptured, from an abortion about the second month of gestation. This case excited an unusual degree of interest owing to the rarity of an abortion of twin pregnancy with unruptured sacs.

These reports were discussed by Drs. Cables, Campbell, Fairbrother, Wiatt, and Rayhill, Dr. Fairbrother mentioning two cases of ectopic pregnancy coming under his observation; one of these had been permitted to go on into the eighth month in the hope that the child might be saved, but unfortunately it only lived a few hours. The mother, however, made a fairly good recovery. The doctor did not favor this delay in operating for this condition.

Dr. Wiatt, in discussion, reported a recent case of ectopic gestation in which the condition had not been suspected, indeed, could not be detected even under the most careful examination by any means usually adopted in cases of pelvic disease, but which was detected during operation for pyosalpinx of the right tube, the left one being found to contain a fetus.

Edgemont was selected as the place of meeting in October. Adjourned.

C. W. LILLIE, Secretary pro tem.

TAZEWELL COUNTY.

The Tazewell County Medical Society met at Morton, Tuesday, July 11, 1911, at 2 p. m. The following papers were presented: "Typhoid Fever," by Dr. T. C. Murphy, Hopedale; "Our State Society," by Dr. F. C. Gale, Pekin; "County Medical Organization," by Dr. E. F. Kelchner, Delavan. The physicians at Morton served a fine lunch for those attending.

WOODFORD COUNTY.

The Woodford County Medical Society met in annual session in the supervisors' room in the court house in Eureka, May 2, with president W. S. Morrison in the chair. The following members responded to roll call: Dr. C. F. Banta, N. B. Crawford, J. I. Knoblauch, W. S. Morrison, H. A. Millard, J. F. Page, and C. B. Higby. The minutes of previous meeting were read and approved. The secretary-treasurer's report was read and approved. A resolution endorsing the movement to ask the legislature for an appropriation of one hundred thousand dollars for the maintenance of a medical department of the Illinois State university was read and unanimously adopted. The applications of Drs. E. R. McBroom and Matthew Everitz for membership in the Woodford County Medical Society were read and referred to the board of censors. After favorable report by the board they were duly elected. A motion was made and carried that the president appoint a committee of three to draw up resolutions on the death of Dr. E. A. Wilcox. The following committee was appointed: Drs. N. B. Crawford, James Tweddale and H. A. Millard.

The following officers were elected for the ensuing year: president, J. I. Knoblauch; vice-president, C. B. Higby; secretary-treasurer, H. A. Millard; delegate to State society for 1912 and 1913, H. A. Millard; alternate delegate to State society for 1912 and 1913, W. S. Morrison; censor for three years, to May, 1914, J. F. Page. Motion was made and carried, unanimously, that we hold our October meeting in Eureka. Free and enthusiastic discussion was indulged in by all present on many topics pertaining to the good of the society. Dr. J. I. Knoblauch then read a very able and interesting paper on "Puerperal Eclampsia," which was freely discussed by all present. The meeting then adjourned in regular order.

H. A. MILLARD, Secretary-Treasurer.

REPORT OF COUNTY SECRETARIES' CONFERENCE

The fifth annual session of the County Secretaries' Conference met in The Peoples' Church in Aurora on May 16, 1911, at 3 p. m., with Dr. D. G. Smith, president, in the chair. There was a larger attendance than at any previous meeting held by this section. The papers read were of high order and were discussed with interest and enthusiasm.

Dr. H. G. Langworthy, of Dubuque, Iowa, read a paper of unusual interest entitled "Important Features for County Medical Societies."

"Doctors in Politics" was then presented by Dr. L. H. A. Nickerson, of Quincy, giving some details of a legislative fight in the thirty-sixth district last fall.

Dr. Lovewell, of Chicago, moved to appoint a committee of three to nominate officers for the ensuing year. The Chair appointed Drs, Lovewell, Bowles and Jones.

The next speaker, Dr. T. H. D. Griffitts, of Springfield, was unable to be present on account of sickness in his family. However, he forwarded his paper, "The County Secretary," and it was read by the Secretary.

The last paper on the program, "What can the Secretary do to Get Out a Better Attendance?" was read by Dr. C. Hubart Lovewell, of Chicago, and was full of good helpful suggestions.

The nominating committee then brought in their report, which was unanimously adopted.

President, Dr. H. N. Rafferty, of Robinson; vice-president, Dr. Marion K. Bowles, of Joliet; secretary-treasurer, Dr. E. W. Fiegenbaum, of Edwardsville.

A few more such meetings will make this section of the State Society as interesting as are the others.

E. W. FIEGENBAUM, Secretary.

IMPORTANT FEATURES FOR COUNTY MEDICAL SOCIETIES

HENRY GLOVER LANGWORTHY, M.D.
DUBUQUE, IOWA

Mr. Chairman and County Society Officers of Illinois:

The Annual County Secretaries' Conference, while yet in its infancy, already shows signs of exerting a tremendous influence for that which is good in the not far distant future. While at first taking on somewhat of the nature of a pleasure meeting with rather ill-defined aims and little official recognition it is rapidly becoming the really one meeting of the year where thinking men with a state-wide outlook gather together to work out a system and organization which in time is going to direct and govern the welfare of the county medical societies in the United States. Everyone here to-day is here for an unselfish purpose and that purpose actual work towards the betterment of the medical profession. I am glad to be able to state that the men on the program and the men who are to discuss the papers do not come to Aurora with blare of trumpets and other advertising features directed solely toward personal interest, but come for the common good of all. The enthusiasm that one must gather from being on this floor this afternoon will, I am sure, be felt by every member before he leaves the building. Get something out of this meeting my fellowmen, so that when you return home you can feel in your hearts that the few hours spent at this conference have been really profitable ones. Physicians are expect-

ing more and more of their county societies and unless they receive substantial benefits from membership the repeated statement of men outside societies—"that they are about as well off outside as inside"—is going to have some weight. The time is already at hand when soft soap and a feast of purely professional improvement is not going to draw all doctors into the society fold. You must now begin to give them business reasons and very definite inducements or they will not come. It is easy enough to read a paper with such a title as "Important Features for County Medical Societies," but in order to live up to it we must cut out the more or less trivial things in the way of organization which any average secretary is perfectly able to work out at home, and get down to hard cold facts. I am perfectly candid when I say that I believe I am one of the most interested officers present at this meeting for the reason that I am on the lookout for information as well as here for the purpose of comparing an Illinois officers' conference with the many similar ones which I have attended in my own state. I am here to-day not so much to present new features which I have found of importance to me in my work as I am to meet the men who have seen service, learn something of their methods through discussion and to carry back home ideas which we in Iowa shall contrive to put into execution. If, therefore, when I have finished my address you do not get upon your feet and give me the ideas which I seek I am going to be disappointed.

But to get down to my subject and to take up the first important feature for a county medical society. There can be little question that every county medical society with a membership of forty-five or more would be greatly benefited by having some form of a regularly printed quarterly or monthly bulletin. I am not advocating at all that every secretary shall become a medical editor, but I believe that a society of any size ought to be able to find someone interested enough in its general welfare to spend the time necessary for adding an extra page of medical comments to the regular program which will keep members in touch with things about them. The several reasons for the advocacy of such a plan are as follows: 1. The work while naturally devolving on the society secretary is not at all burdensome. A four-page program and bulletin would be sufficient. 2. The expense will be little more than publishing the average society program. 3. Interest in society work is apt to be increased in direct ratio as members are kept in touch with their own community. 4. The bulletin plan is the most practical way I know of raising the medical standards of any county. 5. That the plan is successful is proven by the increasing number of programs and bulletins issued by county medical societies throughout the country.

It gives me great pleasure to say that some of the very best program and bulletin combinations that I have ever seen are published right here in this great State of Illinois. Indeed I can say without any suspicion of flattery that the county medical societies of Illinois lead America in general efficiency. But to get back to my theme, it is surprising how quickly the combination program and bulletin becomes the official organ of the society and as such is an index of the practice of medicine in the locality. To be more exact I will briefly describe the bulletin plan[1] as follows: The bulletin should be a small one, of not more than four pages, and of sufficient size to readily slip into an envelope and easily mailed. On the first page may be printed, "Program of the ..... County Medical Society," followed by the name of city and place of meeting. The second page will naturally contain the full program of the meeting. The upper part of the third page includes the complete list of the officers of the society. The remaining half of this third and all of the remaining last or fourth page under a bulletin heading is to be used as the bulletin proper. The strictly bulletin part can be devoted to all sorts of miscellaneous medical news, short editorials and society announcements. That in a nut-shell is what every society secretary should try to give to his members. It is the first essential in holding the men of a county together both in organization and in good-fellowship. Say

1. Langworthy, H. G.: Publication of a Bulletin by the County Society, Jour. A. M. A., March 12, 1910.

what you will, every member looks over his society program, so do not, I beg you, miss the chance when he is doing this to drop something into his mind which will prove of interest and benefit. Go home with the motto: "More perseverance on my part, better programs, more medical news." You've got to keep everlastingly at the matter of programs, everlastingly at the men to get them on the programs and at the meetings if you want success! The profession looks to its county secretary for the real live wire, the real hustler, the man enthusiastic and young in spirit. Don't go away from this meeting to-day without getting the big idea which is, "Do something for the county medical society!" Arrange a program that you'll be proud of. Have the best men on the program and don't get discouraged just because the meetings are poorly attended as some meetings are bound to be! If the cause is a good one be a willing and good-natured though none the less martyred secretary. Just get busy all the time and the year as a whole is bound to show results.

This brings us to the second part of my paper, namely, the need of every county medical society keeping better track of the people who do not and will not pay honest doctor bills. There is a whole lot being written on the business side of the profession just now and I have contributed my share, but it does seem to me that it can be boiled down to these two things: First, make a proper and fair charge for services rendered. Second, use more business-like methods as well as co-operative methods in collecting what is rightfully our due. There is too much price-cutting going on for safety. The public has had too poor an opinion of the doctor as a business man. The profession hasn't had enough intelligence to get together, and treat the dead-beat as a strictly charitable individual and keep track of him so that he cannot take up your valuable earning time. Just because we hear the cry of unionism against a few county medical societies that have gotten together on an intelligent understanding as to fees and taken a stand to protect themselves, a few faint-hearted physicians have thought the term undignified. Will Americans ever forget the motto which gave us our birthrights? "United we stand and divided we fall!" The business bureau for county societies, the principal features of which are herewith presented, is merely a recognition of the fact that we must send out bills more frequently, see to it that systematic quarterly collections are made by a competent society attorney when our own efforts fail, and finally learn the names of people who go from doctor to doctor without any intention of meeting their obligations. The plan which I present for your approval and which the essayist has succeeded in having adopted by a number of medical as well as dental societies is to simplify as much as possible the ordinary sound idea of business cooperation and apply it in a way that will fit county societies of smaller cities where it is often badly needed. I can do no better in presenting the plan than to read the official copy of the Business Bureau of the Dubuque County Medical Society, my own home city of 40,000. The establishment of the bureau should take the form of the ordinary resolution readily:

WHEREAS, it is deemed advisable that the ..... County Medical Society should adopt a Business Bureau.[2] Therefore be it

Resolved, in meeting duly assembled this 16th day of May, 1911, that the same be and is hereby adopted and known as the Business Bureau of the ..... County Medical Society, and that the said Bureau be conducted along the lines and according to the following:

OFFICIAL COPY OF A PRACTICAL BUSINESS BUREAU FOR COUNTY SOCIETIES

The following agreement between the Business Bureau Committee of the County Medical Society, party of the first part, and Attorney ....., party of the second part, shall be for a period of one year, said Bureau to be conducted along the lines and governed according to the following:

2. Langworthy, H. G.: Publication of a Bulletin by the County Society, Jour. A. M. A., Oct. 15, 1910.

1. That ..... shall act as Attorney for the ..... County Medical Society in the capacity of conducting the business of the "Business Bureau" of said society, and pursuant thereto said Attorney will call every three months upon physicians who are members of the ..... County Medical Society for statements of accounts and will give receipts for same. That he will keep a separate and private file for each physician's accounts and correspondence. That he will keep a complete system upon which will be notated the exact status and progress of each account. That he will make quarterly returns direct to the physicians as the Business Bureau Committee may direct. That he will not bring suit on accounts without authorization and private arrangements with the physician. That he will assist the committee in auditing accounts. That each physician's account will be open to his inspection at any time, but to no other physician, and all other business matters will be kept absolutely private. That due diligence will be exercised in collecting all accounts turned over, and prompt settlement made after collection.

2. That the respective physicians will submit itemized statements of such accounts as they desire to place in the collector's hands. That physicians will receive remittance made directly to them from debtors. That on remittance made directly to the physician on account in the Attorney's hands, commission will be paid but no commission will be allowed on bills remaining unsettled or on money not collected.

3. That the Committee of the Business Bureau of ..... County Medical Society may, at any time, audit the account in the hands of the Attorney and shall in cases of dispute distribute to the Attorney the amount of his commission and to the physician the amount due him on such accounts. That the commission to the attorney on accounts collected in payments or installments the schedule per cent. per payment will prevail:

Collections of $2.00 or under	50 per cent. commission
Collections of $3.00 or under	30 per cent. commission
Collections of $4.00 or under	30 per cent. commission
Collections of $5.00 to $10.00	25 per cent. commission
Collections over $10.00	20 per cent. commission

4. That all expenditures in conducting the collections by way of record files, all paper, envelopes, stamps, etc., shall be borne by the attorney.

5. That said attorney, ... shall be appointed by the committee for a term of one year subject, however, to removal by the Business Bureau or Society for unwarranted neglect, dishonesty or general incompetency.

6. That the attorney shall arrange a reference list as to financial standing and responsibility of patients, accessible to members of the County Medical Society but to none others. This list together with such additional lists and information deemed justly the private property of the Society shall be turned over to his successor in case of withdrawal, dismissal, or for any other reason. The attorney shall further furnish annually to each member of the Society in good standing, a reference list as indicated above, expense of printing and mailing said reference list to be borne by the Society.

7. These articles and the power given the Business Bureau Committee may be altered or curtailed by a two-thirds vote of members present and voting at any regular meeting, previous notice of such action having been given all members sixty days in advance.

Chairman .....
.....
.....

Attorney .....

The above I am sure you will find helpful if you will but try the plan. It is working out in other cities and towns, why not in your own? Gentlemen, we must recognize that the one thing needful in our profession to-day is better and saner methods for the collection of our bills! Give this to members and you

make the county society a benefit to them. Give them a general county fee-bill, not as a law but merely as a sort of general guide to follow and you will increase collections 12 per cent. Do this and the list containing the names of thousands of doctors who do not pay their bills as compiled by the large drug and supply houses will be materially reduced. Physicians are an extremely industrious class, but too much of their earnings are never collected. Think this over, get together and form a Business Bureau and then stick together on it. Don't be a price-cutter above all things, as the price-cutter is an acknowledged failure and the shame of the profession. In closing I would make this appear: Try to collect your old outstanding accounts and if you can't collect them, then, for heaven's sake, at least know the people who will not pay their bills!

DOCTORS IN POLITICS

L. H. A. Nickerson, M.D.
Quincy, Ill.

Any organized body entering the field of politics to defeat a candidate of one of the great political parties should have a grievance of sufficient magnitude to enlist the sympathy of the public: the local conditions should be of such a nature as to insure a reasonable degree of success. A failure to elect would mean a "set back" to the high ideals for which such a body stands.

In justification of the course of the physicians in entering the political canvass of the 36th Senatorial District at the last primary election, I will quote from the great American code, which says in part, "That all men are created equal; that they are endowed by their Creator with certain inalienable rights—among these are Life, Liberty and the Pursuit of Happiness." In the call of the colonies, August 2, 1776, for signatures to the Declaration of Independence, a doctor, Joseph Bartlett, was the first to affix his name. Four other physicians were among the signers.

In doing this they risked their lives and property for the good of their fellow men. Was this all? By no means. They have been always to the front, in the forum, in the legislature, in the army, and in many public offices, striving for the right and for the good of humanity, restoring to health the sick and wounded; advocating laws for the prevention of epidemics and in many ways elevating the standard of health. They have set an example that should not be forgotten and have been most potent factors in forming this great government.

By education and training, the physician is particularly fitted to make laws for the protection of the public from epidemics and endemics. I wish it understood that doctors should not necessarily enter actively into practical politics, but that he owes it to himself and the profession to enlighten the people on such subjects as endanger the health of the community, by instilling into the public mind the necessity for good laws pertaining to hygiene and right living. The public should be taught to cheerfully obey these laws.

We should get next to the legislators, pointing out to them vicious and bad laws, and see that those who get into politics and are sent as our law makers are upright, absolutely free from "isms" and "fads." There is no doubt that the medical profession, from political indifference and legislative ignorance, are often responsible for bad laws getting on our statute books. It should be the collective concern and duty of physicians to exercise an effective surveillance over the body politic and to expose any proposed vicious legislation.

Education and civic pride have done their work well in passing the Pure Food Laws; enabling the United States to build the Panama Canal with a minimum death loss, and in giving us free antitoxin in our own State, to say nothing of many laws now on our statute books. We must not be content with what we have accomplished in the past, but must strive to do more for the good of humanity. In a quiet way, let your influence he known to the political grafter.

During the last session of our State legislature, the physicians of the State received letters from Dr. L. C. Taylor, chairman of the legislative committee of the State Medical Society, asking them to write and interview their representa-

tives and senators with the view of defeating the Osteopathic and other vicious bills then pending before the legislature. The members of the legislature representing the 36th senatorial district led the physicians to believe they were opposed to these bills, and Dr. Taylor was so informed. To our chagrin and humiliation, Messrs. Groves and Bolin of the House voted for the Osteopathic Bill. At the July meeting of the Adams County Medical Society, a resolution was introduced and passed unanimously, directing the legislative committee of this component society to inquire into the feasibility of entering the political canvass with the object of leaving the Hon. Jacob Groves and C. E. Bolin at home, by defeating them at the primary election to be held Sept. 15, 1910.

This committee was given power to enlarge its membership and have full power if they decided to enter the canvass.

The committee as enlarged consisted of the following: D. M. Knapp, president Adams County Medical Society; C. A. Wells, secretary Adams County Medical Society; G. U. McComas, president Pike County Medical Society; H. T. Duffield, secretary Pike County Medical Society; Isaac Berry, president Calhoun County Medical Society; Stephen Flatt, secretary Calhoun County Medical Society; J. W. Weis, president Scott County Medical Society; H. H. Fletcher, vice-president Scott County Medical Society; J. P. Campbell, secretary Scott County Medical Society; James Miner, R. J. Christie, H. H. Hart, J. H. Rice, T. B. Knox, H. P. Beirne, C. W. Pfeiffer, Samuel B. Peacock, J. Estill Miller, Otis Johnston, W. W. Williams, L. H. A. Nickerson, R. J. Christie, chairman, and C. A. Wells, secretary.

At the first meeting of this enlarged committee an executive committee was named, consisting of H. P. Beirne, C. A. Wells, and L. H. A. Nickerson.

The skeleton of a circular letter was prepared by this executive committee and submitted to the full committee for amendment and endorsement. Our circular letters were always headed in bold type, "Joint Meeting of the Adams, Pike, Calhoun, and Scott County Legislative Committee." These letters were sealed and mailed to each physician in the 36th senatorial district.

The first letter was mailed on August 6, 1910, followed by five other letters: the aim being to have a new letter in each physician's hands every week or ten days. In addition to the letters we used two "Dodgers," one called "The Reminders,"

MY CHOICE

FOR REPRESENTATIVES IN THE GENERAL ASSEMBLY

36th Senatorial District

[x] WILLIAM H. HOFFMAN.

[x] CLEMENT L. HAWKINS.

TWO to be nominated.

numbers of which were mailed with each letter. We were very careful in writing these letters that they should contain nothing that could not bear publication if they should fall into unfriendly hands. Our letters were printed in bold, clear type, sealed, mailed, each backed with a two-cent stamp. In addition to the letters of the joint committee, our State secretary, Dr. E. W. Weis, Dr. L. C. Taylor, chairman of the State legislative committee, and Dr. Carl E. Black, member of the judicial council (Adams, Scott, Pike and Calhoun Counties being in his judicial district), wrote letters to every physician in these counties, urging him to support the committee's choice, for which generous service the joint committee was under obligations.

These letters were of great aid in this civic work. Hon. Jacob Groves of Adams County had just finished his fourth term in the House and was seeking a democratic renomination. He was very obnoxious to the physicians of Adams County, as he had "played double" with them as indicated by his answers to the physicians of the district. He was popular as the term goes, and a practical politician; he was endorsed by all the civic organizations in the State (except the doctors). Many thought he could not be defeated. In one of his announcements he stated, "I would have had the support of the State Medical Association

had I been willing to promise the physicians that I would support any measure that they might bring before the legislature; but this promise I flatly refused to make and as a result of this refusal, I have their opposition."

This "two-third column" announcement was published in the daily papers with his picture at the head of the column and was signed by Jacob Groves. He had the support of all the democratic papers of Adams County, with the endorsement of all the civic organizations of the state. We managed to keep out of the papers, only getting a "roast" from them the day before the election. We did our work by interviewing our friends and patients, asking them as a personal favor to vote for Messrs. Hoffman and Hawkins, at the same time placing in their hands a number of our "Reminders."

Hon. C. E. Bolin of Pike County had finished his second term in the legislature and was asking a renomination of the democratic voters. He had the support of most of the civic federations; was popular, and had a clean record. He voted for the Osteopathic Bill but states that it was done under a misapprehension. He thought the bill as amended in the House was acceptable to the profession and so voted for it. Two or three days before the election, the ILLINOIS MEDICAL JOURNAL was received by the physicians of the district, containing a notice that Mr. Bolin was satisfactory to the profession.

He evidently had signed the questions favorably asked by the State legislative committee. Mr. Bolin made it a point to have a personal interview with the physicians outside of Adams County, stating his position and with county pride he made another good point in this canvass, "That if Hoffman and Hawkins were nominated, all the legislative offices would be held by Adams County men." Just at this point, I wish to make clear our lamentable blunder. Up to a late date in the canvass, Groves and Bolin had only two opposing candidates for the nomination, viz.: Hoffman and Hawkins.

These two gentlemen were interviewed by the committee and were found favorable to the profession, hence there was no alternative but to endorse them and ask for the physicians' support. Later in the canvass, Hon. Sylvester Allen of Scott County came out as a candidate. If Mr. Allen had announced himself earlier in the field, there is no doubt but the committee would have endorsed him, and his nomination would have followed.

The blunder under the circumstances could hardly have been avoided. We were not practical politicians and as honorable physicians could not throw down our choice as made. We were and are satisfied with the result in the election of Messrs. Bolin and Hoffman.

We believe we have two good men to represent this district, and the profession will have no reason to complain of their services to the State. We are glad to say the Hon. Jacob Groves, who was so obnoxious to the Adams County physicians, was left at home. We feel we were justified in making this fight and that we have "made good." Hon. Campbell Hearn of the Senate and George H. Wilson of the House were with us in the last session of the legislature, so now we have a solid delegation in the 36th senatorial district, who will be favorable to any reasonable measure the profession may propose.

We will not hesitate in the future to engage actively in politics if the occasion requires. Did it ever occur to you the great power we have in our organization of 5,000 members? Certainly there is no physician who could not control at least ten votes of the dominant party in any political campaign. Few voters have any choice as to the member to be chosen for the legislature, hence, we only have to ask them, as a personal favor, to vote for or against anyone seeking a nomination. This would mean a total of 50,000 votes for the entire State; enough to defeat or elect any aspirant for any office. This power held before the vision of any office seeker would certainly be heeded. Our power is great, and needs only to be properly handled to meet our needs.

It is our duty to use this power with discretion and only for the good of the public. It should be remembered that the senatorial districts are not the same as our judicial districts. The writer has arrived at the following conclusions:

1. Every component society should have a legislative committee.

2. All component societies in each senatorial district should be formed into a compact unit by our State legislative committee.

3. Keep out of legislative fights, if possible, by interviews and pledges of the aspirants before the election.

4. If the necessity arrives to defeat an objectionable candidate the fight should have at least the sanction of the State legislative committee, if not made under its direction.

5. The State legislative committee should issue a Bulletin as early as possible after any important bill has been introduced into the House or Senate, advising the physicians as to its character, and whether it should be supported or defeated.

6. The place to defeat vicious bills is while they are in the committee.

7. That the legislative committee of the component societies be advised as to which committees the senator and representatives of their district have been assigned.

THE COUNTY SECRETARY

T. H. D. Griffitts, M.D.
Springfield, Ill.

It is essential that each and every member of the county medical society put forth every effort possible to make the local society a live organization. The county secretary cannot in himself accomplish this, although it is frequently asserted that the *secretary is the society.* Just as a chain is as strong as its weakest link, so is the county medical society as strong as its integral parts. The sooner the county secretary can disillusion the minds of members of the society of any idea that the secretary is the star performer, the better it will be for both the secretary and the society.

In the arrangement of the year's program, every member of the society should not only be given a chance to take a part in the scientific work, but, I feel, it is the duty of the secretary to place them on the program, if not for a paper or an address, then to open a discussion, or to present a clinical case or a pathologic specimen. It will be a rare exception that any member will take offense at finding his name on the program even though he has not agreed to serve. This plan will increase the attendance, and tend to make every man a worker.

Again, the average society will have occasion during the year to appoint many committees. If your membership is so large that you cannot work all in on the scientific program, cooperate with the president in seeing that these are given committee appointments.

The successful secretary will constantly study the society, will learn what is to be done, and who is the most able man for the work, but it is not always best even to assign the ablest man, as you regard it, to a paper on a given subject. It is often more diplomatic and of equal value to have the "leading" men discuss the papers of those who may be more or less regarded as novices. (The importance of this plan is more impressed upon me now than ever before, since you have asked me to present a paper before the Secretaries' Conference). But recurring to the subject under consideration—every man must be made a worker, and it falls to the lot of the secretary to accomplish this, both as secretary or as a member of the program committee, of which, I believe, he should always be the chairman.

There are always to begin with a sufficient number of interested members of the society to not let a secretary fall down in his work, if he only manifests a working interest. The secretary must not shirk. To be sure, it is easier to proof read a postal card announcement, which is in a stock form, except the essay and essayist, which are changed for each meeting, than to issue an announcement or call that will be read, kept and possibly re-read before the meeting. It has been my policy to notify each member ten days or a week preceding the meeting by means of a letter sent by first-class postage. Nobody likes to get a printed postal card, or a second-class circular letter. The most common way, and usually the

best manner in the conservation of valuable time, is to throw them into the waste-basket. If you can get the use of a mimeograph machine, a hundred letters can be run off in a few minutes, or if the work does not appeal to you, the printer can turn out an imitation typewritten letter, which to all appearances, is genuine. This may seem trivial, but you will find fewer physicians who have "forgotten all about the meeting" by adopting a means of announcing the meeting which deserves more dignity and importance than can be carried on a postal card for a penny. If your society's finances cannot withstand the expense, get your dues increased. That's what I did. If you print your program, months or a year in advance, you still should issue your announcement before each meeting.

The writer has always found it worth while to augment the formal announcement by using the telephone on the day of the meeting to remind the members not to miss the meeting, and in this, the president should assist.

The County Society rests on a tripod-scientific contribution, paid-in dues and general business, and attendance. The ideal member is the one who meets all these obligations promptly and cheerfully.

Th secretary's connection with the scientific work and attendance, I have touched upon slightly. As to finances: here the skill and tact of the secretary are tried. Physicians are not very different from other men, and your decorum must be in evidence in matters relating to collections. Write the delinquent a courteous little note, that you "feel sure you either did not receive the statements previously sent, or in the rush of a busy man, the matter was overlooked," etc., and "maybe, I possibly missed you." No one remonstrates at being regarded as a busy man, and if you also are willing to bear some of the blame, money will come better.

Primarily, the life of a society is dependent upon its own members, but as a stimulus "home talent" must sometimes be supplanted by a speaker of more than local reputation. The secretary is enabled to supply speakers of national reputation if only he puts forth the effort and the society expends, as it should, a proper sum for entertainment.

A society has three classes of members: first, those who attend regularly, pay their dues and are active in the affairs of the society; second, those who pay dues and do not attend; third, the unfortunates—those who stay at home, and do not pay dues—these have already been red-lined by the active secretary.

You ask me about a class that attends the meetings but does not pay? It's a nonentity; he just cannot attend where the *good* secretary is and not pay up—somehow he doesn't feel right.

In conclusion, were I asked to drink a toast to our society's success, I would hold up the sparkling wine and say, "Here's to the County Secretary, whose inhibitory fibers are paralyzed, and who, like unto the ever vaunted nostrum, 'works while you sleep!'"

WHAT CAN THE SECRETARY DO TO GET OUT A LARGER ATTENDANCE?

C. Hubart Lovewell, M.D.
Chicago

Tradition and general custom accounts for the popular notion that the success or failure of a medical meeting is due in a large measure to the secretary.

Most of us are human enough to enjoy the praise and approbation of our members whenever we have any unusually good meeting, but it is hard to feel that the failures are due to any of our own personal mistakes or derelictions.

How many times have we studied and schemed until at last we thought that we had a program that would interest every member of the society. Yes we *thought* so, but when the time came for the meeting we began to get nervous and wonder where they all were.

Doctors are queer fellows the world over. The more you study him the less you know. How many, if any, of you know beforehand exactly how he will react toward the inoculation of 1,000 ems (more or less) of 8 pt. brevier topped off with a generous dose of 12 and 18 pt. display type? I have given it up and I

have been at it some time too, but as long as I have any energy or gray matter left, I intend to keep hammering away.

It being granted then that we have to deal with a hard proposition and one that offers no great reward other than the satisfaction of good work, well done, let us reason together a while and get as much help from each other as we can in the short space of time that we have here to-day.

One of the first things that is to be learned by the secretary who wants to increase his attendance, is to be on the job more *himself*. We all waste many odds and ends of time. Nowadays manufacturers are getting rich on their by-products, the odds and ends they formerly threw away. The successful secretary must not only work diligently during the time just previous to the meeting, but he must make use of all his odds and ends of time to be thinking about the next meeting.

Another thing that is necessary is the regular consumption and assimilation of material in the way of suggestions and plans as used by other societies. We must give due attention to the kind of reading that we do if we wish to make the best use of the opportunities that the office of secretary brings. I am sure that it is with a feeling of deep humility that I make any attempt to tell you how to draw out your membership. Many a time have I gone home and told my wife that I was plumb disgusted clear through. The next morning, well I would think it over and try again and perhaps the next time our meeting would be all that a secretary could wish.

Some of the things that, in my opinion, have contributed to the success of the meetings of our society may possibly interest you, and if so I shall feel that I have not taken up your time in vain:

1. *Announcement.*—The regular appearance of an interesting and catchy announcement of the meetings. Use discretion in the selection of type and paper. You can make it look like regular boiler plate matter if you are careless. Add a few items of news, throw in a little exercise for the diaphragm. Doctors need to laugh once in awhile. Make it a general medium of publicity for medical matters in your county. It may be managed so as to be a source of great strength in influencing public sentiment and legislation. We print what we think our representatives ought to do and then send them a copy real often. And they know that we mean business too.

2. *The Program.*—Choose subjects of common interest offering timely and practical suggestions that all can appreciate. This will make it easier for all to take part in the discussions.

Some of our societies have taken up the post-graduate course as outlined by *The Journal A. M. A.*, and have found it very helpful and popular.

We may well cultivate the habit of having clinical meetings as I firmly believe that the general membership gets more real satisfaction out of a clinical meeting with plenty of good material than out of any other kind.

Then there are symposiums consisting of short papers by a number of men. These can be made very valuable and interesting to all, not only to those that listen, but in addition the spreading out after new men to read the short papers always tends to increase the interest and promises well for the next meeting.

In addition to these we might hold joint meetings with lawyers, clergymen and teachers on matters of public and personal hygiene. At such meeting considerable public sentiment may be created against some of the more common public evils, such as the public drinking cup, water supply, spitting in public places, etc.

I would suggest that during the coming year each of you try the plan of holding at least one meeting in conjunction with the State Board of Health. These could be made very interesting and profitable, I am sure.

Such an exhibit as was given by the Board last year at Danville would be very interesting to the average county society, and although I have not spoken to Dr. Webster or Dr. Egan about it, still I feel sure that they will be very glad to cooperate with any county society that wished to have such a meeting. Cooperate with Dr. Weis of our State Society in using the Bureau of Lecturers.

3. *The Place of Meeting.*—If the county seat is centrally located and transportation is good, this will be the best place for holding the meeting. If not, meetings held in different quarters of the county as in Jo Daviess County, will be very helpful in getting out a good attendance.

4. *Time of Meeting.*—Arrange the hour of the meeting so as to make it convenient for the largest number of your doctors. Possibly an afternoon hour followed by a dinner will help you out.

5. *Reception Committee.*—Now what shall we do with these men after we have coaxed them out? How shall we treat them so that they will want to come again? Man is essentially a social animal and the Doctor is no exception to the rule. Next to a good program is a good reception committee. There ought to be a separate special committee on greeting and entertainment for each meeting for the purpose of extending a hearty and pleasant welcome to every visitor, old or young, member or not.

I think that we are very often negligent in our treatment of the older men who sometimes come to our meetings. I think that we should make unusual endeavor to show a special courtesy to these men. Some have not attended a medical meeting for months and years and may feel rather out of place and embarrassed. Be sure that such an one is thoroughly introduced to the membership present and no matter what has been his history show him that you fellows are all wool and a yard square.

The interchange of these fraternal courtesies plays a very large part in the success of your work at the time as well as in the future gatherings.

Everybody admits the necessity and wisdom of getting all the young men affiliated with your society, but let us not forget the man who has fought the fight alone and unaided, during the days perhaps before there were any fever thermometers or hypodermic syringes, and who has worked out for himself many of the problems that we think are new. Give him a chance and he will tell you of many helpful things in the practice of medicine that you will not find in the books. I believe in a more warm and hearty spirit of fraternity with these older men *now* while they are still with us. Only a few years more and they will all be gone and we shall be in their places.

6. *The Physical Pleasures of the Meeting.*—Phillip Mills Jones of California once told me that the only way to get out the largest number of Doctors was to "Feed the Brutes." My experience will agree with this and so I say, give them grub if you want to send them home happy and glad to come again next year. Some light refreshment at least will do much toward stimulating the best side of a man and will often help to make good friends of neighbors who had been jealous of each other.

In general let us keep in mind the objects and aims of our great profession and of these societies which we are trying to build up and strengthen. Try to discourage, forever, if possible, the species of Doctor who is a *knocker*. Let us be reminded that a steeple and a smoke-stack are in some points quite similar and yet each has a very decided difference on the surrounding atmosphere. If we cannot lift up and *boost*, let us at least not fill the air with noxious vapors that blacken everything that they touch.

Remember there is only one kind of service that will satisfy the soul of a true secretary and that must come from the heart. There is no royal road in this matter any more than in any other endeavor. There is none Just as Good. You have got to get right yourself and then keep everlastingly at it if you want to see your society make good in the community.

"Perhaps I may gargle my throat with the water of failure, but something inside me tells me that if I keep faith with myself, keep my hands and mind clean, hold to my ideals, be frank and at least fairly honest and neighborly, I shall eventually win, even though I have to pass through hades and high tide before I arrive."—Thos. Drier.

NEWS OF THE STATE

NEWS

—Dr. G. D. Scott of Chicago has removed to Sullivan, Indiana.

—Dr. J. F. McBride of Coleta has removed to Davenport, Iowa.

—Dr. V. A. Carriere of Litchfield has removed to St. Louis, Mo.

—Dr. H. W. Jones of Arthur, Ill., has removed to Montrose, Mich.

—Dr. Daniel E. Egan of Streator has removed to 304, 108 La Salle Street, Chicago.

—Dr. Henry T. Godfrey of Galena, Ill., has removed to 5720 Cass Street, Omaha, Neb.

—Dr. W. O. Fish, a recent graduate of St. Louis University, has located at Alhambra.

—By the will of the late Sylvester Smith, $2,500 is bequeathed to the Alumni Association of St. Luke's Hospital, Chicago.

—Dr. Louis Apple and family of Gillette, Wyoming, are visiting in Marine. They will probably locate there permanently.

—The Waukegan Physicians' Club was organized April 4, 1911, and has twenty active members residing in Waukegan and North Chicago.

—Dr. W. T. Dowdall has been appointed local surgeon of the Illinois Central Railroad Company at Peoria, in place of Dr. Bradley, resigned.

—The Columbus Extension Hospital at Polk and Lytle Streets, Chicago, was opened with impressive ceremonies July 16. The new hospital is a branch of the Columbus Hospital.

—Dr. Emil G. Beck will return in a few days from an extended trip to Europe. He demonstrated his treatment of sinusitis and empyema at the last congress of German surgeons held at Berlin.

—By the will of Mrs. Nannie Loewenthal, $3,000 is bequeathed to Michael Reese Hospital and $1,000 each to the Chicago Lying-In Hospital and Dispensary and the Alexian Brothers Hospital, Chicago.

—The Lake County Medical Society has commenced publication of the "Lake County Doctor." The first number appeared June, 1911. No doubt the monthly publication will be of great advantage to the society.

—Dr. H. I. Davis, who for the past six years has been superintendent of the detention hospital of Cook County, has returned to private practice, giving special attention to nervous and mental diseases; office 108 North State Street, Chicago.

—"Professor" L. Haskell of Murphysboro, a magnetic and faith healer, was found guilty of practicing medicine without a license, and fined $100. He had been practicing in that city for eleven years, and in June, 1911, treated a baby which died, for diphtheria.

—Dr. and Mrs. F. E. Tulley of Granite City, will start some time during this month on an extended automobile tour of the far west, including Yellowstone Park. The machine will carry a complete camping outfit, also being arranged so that it can be used as a sleeping car at night. They expect to be gone several months.

—The following members of the staff of Julia F. Burnham Hospital, Champaign, have been reappointed: Drs. Cassius M. Craig, William E. Schowengerdt, William M. Gray, Clyde D. Gulick, J. F. Mason, W. M. Honn, Charles H. Spears, Jennie Lyons, Albert S. Wall, Cyrus F. Newcomb, Otis O. Stanley, and A. Darwin Kirby.

—Dr. Ralph T. Smith of DeKalb, Ill., sailed for Europe June 17, where he will spend a year in Vienna studying. During his absence his practice, which is limited to the eye, ear, nose and throat, will be in the hands of his brother, Dr. Clifford E. Smith, who recently completed a year's service at the Illinois State Eye and Ear Infirmary at Chicago.

—Governor Deneen is said to have accepted the resignation of Dr. J. L. Greene, Springfield, alienist on the State Board of Administration and to have appointed as his successor Dr. Frank P. Norbury, whose resignation from the position of superintendent of the Kankakee State Hospital occurred recently. It is announced that Dr. Greene has been offered the position of superintendent of the Arkansas State Hospital, Little Rock.

—The appropriations of the State Board of Health for sanitary purposes were increased by the general assembly just adjourned. The sum of $46,000 was given for the purchase and free distribution of diphtheria antitoxin in the state. An appropriation was made for the care of poor persons bitten by rabid animals. Liberal appropriations were made for the enforcement of the medical practice act, to take the place of the fees turned in under the new law. Unfortunately it is specified that no part of the sum shall be expended for legal service.

—The recently enacted law in effect July 1, requiring the State Board of Health to turn into the state treasury all moneys received from fines and penalties, leaves the board without means to hire special attorneys to prosecute violators of the medical practice act in the several counties of the state. Suits must be brought hereafter through states attorneys, few of whom instituted prosecutions in the past, even when paid the fines collected. It is believed that none will do so in the future when the fines will be turned into the state treasury. The State Board of Health fears that under the conditions now existing the state will be overrun with unlicensed practitioners who will practice in defiance of the law.

PERSONAL

Dr. Henry Ward Clifton, Macomb, has moved to Lacon.

Dr. Ferris F. Tannus, Bloomington, has sailed for Europe.

Dr. and Mrs. Wesley John Woolston, Geneva, Ill., have sailed for Europe.

Dr. Maurice A. Bernstein, senior physician of the Oak Forest Infirmary, has resigned.

Dr. David E. Yantis has been appointed physician of the Illinois Traction System at Urbana.

Dr. James A. Flautt, who has been seriously ill at his home in Otterville, is reported to be convalescent.

Dr. John C. Foley, Waukegan, was knocked down by his automobile and suffered a fracture of the clavicle.

Dr. and Mrs. Lewis L. McArthur and Dr. and Mrs. Arthur Dean Bevan, Chicago, have sailed for Europe.

Dr. Clara Paulina Seippel has qualified as assistant city physician of Chicago and will assume her duties August 9.

In a collision with an electric car July 20, the automobile of Dr. Fremont C. Knight of Waukegan was demolished, but Dr. Knight received only slight injury.

MEDICAL SOCIETY NOTE

—Madison County Medical Society met at the residence of Dr. W H. C. Smith, in Godfrey June 2, and considering the fact that it was held in the extreme northwestern portion of the county, this was the best attended meeting of the year, twenty-three doctors being present. Dr. Smith gave his annual address, choosing for his subject, "Epilepsy," which was listened to with a great deal of interest. Refreshments were served by the hostess, for which the members extended their heartiest thanks.

NEW INCORPORATIONS

—Lake View Hospital and Training School for Nurses, Chicago; capital stock increased from $2,500 to $5,000.

—Sisters of Mercy of Aurora, Ill.; establish sanitariums, hospitals, homes, day nurseries, etc. Incorporators, Catherine Bennett, Bridget R. McDermott, Teresa Walsh.

—The American University of Mental Science, Chicago; capital, $2,500; to give instructions in psychic science, physiology, etc.; incorporators, A. W. Wicks, A. C. Metzger, A. G. Wicks.

—Prevento Manufacturing and Distributing Company, Chicago; capital $100,000. Maintaining sanitarium, manufacturing and dealing in medicines and surgical appliances, and general advertising. Incorporators, Ernest S. Bell, Edward M. Eidherr, Albert G. Rosenbaum.

PUBLIC HEALTH

—Dr. George B. Young, Commissioner of Health, Chicago, requests that physicians report all cases of diarrheal diseases on the postal cards furnished by the department. This has an especial significance on account

of the outbreak of cholera among immigrants at New York City. While the department is confident that the national and local authorities are taking every precaution it behooves the local profession, especially those who practice among Italians, to take special precautions.

—The Supreme Court has sustained the medical practice act, for the first time definitely fixing the status of the State Board of Health in revoking licenses to practice medicine. The opinion was given in the case of David Apfelbaum, whose license was revoked because he had practiced under the name "Dr. Hoffman." The court said: "It is not contended that the state has not power to prescribe the qualifications of physicians practicing medicine and to punish unqualified persons engaging in such practice, and the existence of such power is not debatable. The revocation of the license is not intended as a punishment, but for the protection of the public under the police power of the state."

—Illinois cities that desire to obtain the new $1,200,000 hospital for the insane, the establishment of which is authorized by an act taking effect July 1, were invited by the board of administration, June 20, to submit their briefs by Aug. 1. The notice, which was issued by L. Y. Sherman, president of the board, contains in part the following specifications which are to be observed in selecting the site: "1. The proposed location must well serve a locality in the state for the convenient care of 1,500 inmates. 2. There must be available not less than 1,000 acres nor more than 1,500 acres of tillable farm land, either in one body or in the immediate locality. 3. There must be available adequate water supply suitable for drinking and for all other purposes. 4. The proposed site must present topographical conditions suitable for the location of many buildings without excessive expense in the installation of a central heating plant and for the care of the sewage without unusual expense in excavation. 5. The site of the institution must be so located as to make access by railroad switch from either one or more railroads a matter of no considerable expense. 6. The rate per ton on coal from well recognized coal districts to the site would be of considerable importance in selecting a location. 7. Cities interested in the location of this hospital are requested to have prepared a brief, setting up in detail what the locality offers. Written options on the greater part, at least, of the site are necessary, yet it should be clearly understood in conferring with owners that the act confers on the board of administration the power of eminent domain. It is desirable that all communities interested in this matter have a brief setting up of their offerings in the hands of the board of administration not later than Aug. 1, 1911. It is proposed that the board will visit each city and site offered for this institution."

Are you making a drug fiend of your baby? You are in very great danger of doing so if you are giving it some of the so-called "soothing syrups."

Many of the best known soothing syrups are soothing only because they contain such dope as opium, morphin, heroin, codein, chloroform and chloral hydrate in some combination. The following, according to the Division of Chemistry of the Department of Agriculture, Washington, D. C., are soothing syrups of this class:

BEWARE OF THESE BABY KILLERS

Children's Comfort (morphin).

Dr. Fahey's Pepsin Anodyne Compound (morphin).

Dr. Fahrney's Teething Syrup (morphin and chloroform).

Dr. Fowler's Strawberry and Peppermint Mixture (morphin).

Dr. Groves' Anodyne for Infants (morphin).

Hooper's Anodyne, the Infant's Friend (morphin).

Jadway's Elixir for Infants (codein).

Dr. James' Soothing Syrup Cordial (heroin).

Kopp's Baby Friend (morphin).

Dr. Miller's Anodyne for Babies (morphin and chloral hydrate).

Dr. Moffatt's Teethina, Teething Powders (powdered opium).

Victor Infant Relief (chloroform and cannabis indica).

Mrs. Winslow's Soothing Syrup (morphin).

The drugs named in parentheses were found in the concoctions named.

Dope of this kind does great harm to babies. There are numerous cases on record where the baby has been put to sleep never to waken again. "In some instances in which soothing syrups are freely used and the child does not succumb there is developed a case of infant drug addiction. As soon as the effect of one dose passes away the child becomes irritable and fretful, with the result that another dose is given, the craving is met and the child is quieted—a condition which is analogous in every respect to drug addiction among adults. Sometimes these children look plump and healthy, but as a matter of fact their flesh is soft and flabby and they withstand attacks of illness very poorly."

These facts have been pretty well understood by the medical profession for some time, but it is our observation that there are thousands of Chicago mothers who still are ignorant of the harmful effects of this kind of dope. It is our duty to enlighten these mothers.—*From the Bulletin, Chicago Department of Health.*

—Mayor Harrison has selected Dr. George Bright Young, United States Public Health and Marine-Hospital Service, as health commissioner of Chicago, succeeding Dr. William A. Evans, who has made so distinguished a record in that office. The mayor's choice meets with general approval. Dr. Young was born in New Orleans, May 12, 1860. In 1870 his family moved to Charlottesville, Va., where he received his academic education at the University of Virginia. He took the first year

of his medical course at the University of Virginia and completed it at the University of Maryland, Baltimore, from which he graduated in 1887. Jan. 30, 1890, he entered the United States Marine-Hospital Service as Assistant Surgeon; in 1894 he was made Passed Assistant Surgeon, and, on Dec. 10, 1905, was promoted to Surgeon. Dr. Young has an enviable record of service. For three years he was in charge of the national quarantine at Delaware Breakwater. During the prevalence of cholera in Europe in 1893 Dr. Young was one of the officers sent by the service to take charge of the shipment of emigrants and cargoes from the various ports. He had charge of all traffic from Southern Italy and the Island of Sicily, with headquarters at Naples. This duty continued for about a year. One of its results was to demonstrate the sufficiency of the national quarantine regulations, for it so happened that while vessels were leaving for United States, other vessels of exactly the same character and carrying passengers and cargoes of identical origins were leaving for various ports in South America, and while not a case of cholera developed on any vessel from Naples after the regulations were put in force, every vessel not handled by Dr. Young had severe outbreaks of cholera and lost from 25 to 200 passengers. During the yellow fever outbreak in 1897 he had charge of interstate quarantine in portions of Tennessee, Mississippi, Alabama and Arkansas, at which time he established the first extensive system of train inspection. In 1898 he was detailed in the office of the surgeon-general for duty in connection with the supervision of the general quarantine operations of the service during the epidemic of that year. In 1905 he had charge of the operations of the service in a considerable portion of the South, including the supervision of the work done during the outbreaks in Natchez, Miss., Lake Providence, La., and Hamburg, Miss., and the interstate quarantine controlling train inspection and similar matters in a territory embracing nearly all of Mississippi, portions of Louisiana, Alabama, Tennessee and Kentucky. During the past six years Dr. Young has been stationed in Chicago where he has been active in sanitary work, in addition to his service as superintendent of the U. S. Marine Hospital. For several years he has been a member and is now president of the Lake Michigan Water Commission; he was a member of the City Milk Commission and is a member of the City Club's committee on insect pests. He has represented the United States Public Health and Marine-Hospital Service in the House of Delegates of the American Medical Association for the last four years, and in its Council on Medical Legislation and Council on Medical Education. The appointment of Dr. Young is an augury for efficient service, unhampered by political pledges or promises. —From *Journal A. M. A.*

—The campaign to save the babies during the hot summer months opened Monday, June 12, three weeks earlier than heretofore. If organization, forces, equipment and enthusiasm count for much, the work of the coming summer should be more effective than at any time in the

past. The Child Welfare Exhibit recently held in this city through the generosity of Mrs. Cyrus H. McCormick, Jr., has certainly done much to stimulate interest in this work. We now find a more general desire to assist in the work, a better appreciation of what must be done to save the babies and a realization that close cooperation of all interested agencies is essential to fully effective work. The chief agencies cooperating in the work this summer are the Health Department, the United Charities, Visiting Nurse Association, settlements, churches, sanatoria, hospitals, dispensaries, the Civic Federation of Chicago, women's clubs, the medical societies, the daily press, the local foreign newspapers and the county government. The central directing office will be maintained in the Department of Health, on the seventh floor of the new City Hall, with Dr. Caroline Hedger in charge; telephone Main 447, local 132. The work will be coordinated in this office, and, through prevention of duplication of labor, it is believed the scope and effectiveness of the work can be increased 50 per cent. From all sources the available trained field forces will consist of 150 nurses and fifty physicians. These will be supplemented with a large force of volunteer workers which will assist chiefly in distributing literature and otherwise instructing mothers in the care of their babies. Each of the workers will be supplied with a cooperation chart giving directions for the proper reference of cases requiring attention and showing the locations of the baby tents, the Infant Welfare Society stations, hospitals, sanatoria and dispensaries which will provide necessary care for babies. Day nurseries, district offices of the Bureau of Charities, offices of the Visiting Nurse Association will also be shown. Milk will be supplied free when necessary by the county and by the United Charities, and at cost by the Infant Welfare Society. Ice and iceboxes will be supplied free to the worthy poor by the county and the United Charities, and in addition the nurses will carry *Tribune* ice coupons, which will enable poor mothers to secure free ice from any of the Knickerbocker Ice Company's wagons. Baby tents —twelve of them, ten of which are to be furnished by the McCormick fund—will be established in centers of population congestion where the baby death-rate is high. Here mothers may bring their babies for free consultation and treatment, a nurse and physician being in attendance at each tent. Nurses will be supplied with the names and addresses of sick babies reporting at the tents, and they will give the necessary "follow-up care" in the homes. The educational side of the work is recognized as being of greatest importance; with better knowledge on the part of mothers there should be fewer sick babies. The chief aim of this whole work should be, and is, the keeping of well babies well. With this idea in view an elaborate educational campaign is being planned, details of which will be given in another issue of The Bulletin.—From *Bulletin Chicago Department of Health.*

CARE OF THE BABY

What is a well baby?

A baby which sleeps over twelve hours every day, without being rocked.

A baby which has a soft, yellow stool every day, without medicine or other help.

A baby which nurses every four hours and is satisfied.

Why a baby should be breast fed.—The breast is the natural food. Each mother's milk is made for her baby and is different for each stage of the baby's growth. A baby is not apt to catch certain diseases when fed at the breast. If properly breast fed, it stands a much better chance of escaping summer diarrhea.

Summer diarrhea kills many, but it injures many more than it kills, and that for a long time.

Proper breast feeding.—A healthy baby should nurse every four hours.

Let the baby sleep alone and nurse but once between 10 p. m. and 6 a. m.

Irregular nursing or nursing too often spoils the mother's milk and the baby's stomach.

No solid food should be given a nursing baby. Gruel, fruit juice and meat juice (not soup) are sometimes given after six months. Ask your doctor.

Don't give stuff to chew until there are teeth to chew with.

Wash the nipple before and after nursing with boiled water or boric acid solution.

If a baby nurses more than twenty minutes and does not gain weight, the breast milk may be scanty. Drink milk or corn-meal gruel to increase milk. Do not drink beer or alcohol in any form. Eat plain food and keep the mother's bowels well open.

Do not worry nor overwork if you can help it. It spoils the milk.

Drink for the baby.—Give only cool, boiled water, but give all the baby will take of that.

Give no beer, tea, coffee, soda or ginger ale to little tots; give no alcohol or patent medicine to any child.

Artificial feeding.—Most patent foods are wrong because they are not like mother's milk. Cow's milk is not like mother's milk, but can be made so. It must be clean milk if used for the baby, and it is better uncooked. If dirty, it must sometimes be cooked to make it usable. It must be kept cool and away from other food and flies. Ask your doctor how to make cow's milk like mother's milk.

Use no long-tubed nursing bottles. They are the lazy mother's baby killer. Use no "suckers"; they spoil the baby's mouth and carry disease.

In case of even slight diarrhea, stop all milk; give only water or well-cooked barley water (a tablespoonful of barley to one quart of water, cooked three hours) and call a doctor at once.

Give no paregoric. If anything is given, give castor oil—one teaspoonful.

Clothing.—A safe rule is to keep the baby's feet warm and its head cool.

It should neither drip with sweat nor have prickly heat. Bathe at least once a day, and in hot weather dress lightly.

In very hot weather use only a band and diaper, with stockings if the feet are cold.—Dr. Caroline Hedger in the *Bulletin Chicago Department of Health*.

REMOVALS

Dr. C. M. Wilmot, Fiatt, has removed to Speer, Ill.

Dr. C. H. Diehl, Montrose, Ill., has removed to St. Louis.

Dr. F. M. Sanders, Herrin, has removed to Richland, Okla.

Dr. I. A. Foster, Shawneetown, has removed to New Haven, Ill.

Dr. H. E. Small, Alpha, Ill., has removed to North Judson, Ind.

Dr. J. E. Porter, Shannon, Ill., has removed to Stevensville, Mont.

Dr. H. T. Godfrey, Galena, has removed to 5120 Cass Street, Omaha, Neb.

Dr. A. D. Steele, 520 Walton Street, St. Louis, has removed to Chester, Ill.

Dr. Elisabeth Burns of 701 Wellington Street, Chicago, has removed to Decatur, Ind.

Dr. J. S. Church, Geneva, Ill., has removed to 1419 Morse Avenue, Rogers Park, Ill.

Dr. A. M. Calvert, Ottawa, has removed to 523 East Monroe Street, South Bend, Ind.

Dr. Herbert Walker, Evanston, has taken an office at Room 1404, Heyworth Building, Chicago.

Dr. Joseph Hanson, 3215 Summit Street, Kansas City, Mo., has removed to 898 Scott Avenue, Milwaukee, Wis.

MARRIAGES

Helidor Schiller, M.D., to Miss Corinne Hart, both of Chicago, June 29.

Janet Malcolm, M.D., to John F. Wohlgemuth, both of Chicago, June 10.

Omar A. Kell, M.D., Salem, Ill., to Miss Cecil Maxey of Centralia, Ill., June 22.

Carl Williamson, M.D., Chicago, to Miss Marie Tate of Homer, Ill., June 16.

J. Henry Allen, M.D., Chicago, to Miss Pearl McCain of Rockfield, Ind., June 14.

Pierre J. Tischart, M.D., to Miss Rose Marie Binette, both of Chicago, June 27.

JAMES ALLMOND DAY, M.D., to Miss Frances Edna Wilmot, both of Chicago, June 6.

JAY L. ARMSTRONG, M.D., to Miss Katherine A. Stevens, both of Chicago, May 14.

CHARLES E. COLE, M.D., of Jacksonville, Ill., to Miss Bess Dace of Rushville, July 14.

CURTIS THOMPSON, M.D., to Miss Pearl McCarthy, both of Carbondale, Ill., June 23.

EARL JOHN BYERS, Chicago, to Miss Ruth Birge of Grand Rapids, Michigan, May 24.

WILLARD THOMPSON, M.D., Chicago, to Miss Hazel Crofoot of Sandwich, Ill., June 14.

FRANK J. POKORNEY, M.D., to Miss Charlotte Henrietta Wolf, both of Chicago, June 13.

ROYAL LACY EDDINGTON, M.D., to Miss E. Murtell Mead, both of Fairfield, Ill., June 15.

ARTHUR E. HOAG, M.D., Carrollton, Ill., to Miss Bertha N. Mooreshead of St. Louis, June 28.

SAMUEL WILCOX FORNEY, M.D., Chicago, to Miss Vera J. Aldrich of Petoskey, Michigan, March 22.

ARTHUR LEOPOLD FORSTER, M.D., Chicago, to Miss Helen Shannon of Grand Rapids, Mich., June 12.

ARTHUR JONES FLETCHER, M.D., Homer, Ill., to Miss Rose Vorhess Crawford of Danville, Ill., June 17.

EUGENE WAHL, JR., M.D., to Mrs. Marie Wayne, both of Edwardsville, Ill., at St. Louis, Mo., June 1.

DEATHS

JOHN A. FARREN, M.D., Baltimore Medical College, 1893; of Chicago, was found dead in Hot Springs, Ark., June 1.

JEFFERSON ODENBAUGH, M.D., Miami Medical College, Cincinnati, 1880; died at his home in LaGrange, Ill., June 9, of paralysis, aged 64.

CHRISTIAN J. HARTUNG, M.D., Rush Medical College, 1889; died at his home in Chicago, May 16, from hypertrophy of the liver, aged 54.

JOHN A. RUSSEL, M.D., Rush Medical College, 1877; died at his home in Chicago Lawn, Chicago, May 18, from cancer of the stomach, aged 60.

JOHN FARGO, M.D., Hahnemann Medical College, Chicago, 1882; formerly of Chicago and Minneapolis; died at his home in Hollywood, Cal., June 6, aged 79.

W. I. BEAMER, M.D., University College of Medicine, Richmond, Va., 1896; of Laura, Ill., died in Proctor Hospital, Peoria, Ill., July 6, from nervous disease, aged 38.

CLARENCE MCFALL, M.D., Louisville, Ky., Medical College, 1891; formerly of Peoria, Ill.; was killed June 6 by a cave-in while digging a trench on his ranch at Corona, Cal.

HENRY M. FOWLER, M.D. (license, Illinois); a practitioner for 45 years; for several years postmaster of Scales Mound, Ill., was found dead in his room in that place, June 2, aged 77.

MARY E. WHITE, M.D., Northwestern University Woman's School, Chicago, 1883; died at her home in Chicago, May 22, from arteriosclerosis, complicating chronic interstitial nephritis, aged 76.

IRVING W. JOHNSON, M.D., Homeopathic Medical College of Pennsylvania, 1856; one of the oldest practitioners of Illinois, died at his home in Peoria, June 12, of septicemia, due to a carbuncle, aged 79.

BENJAMIN PERRINE MARSH, M.D., Hahnemann Medical College, Chicago, 1875; a member of the U. S. Sanitary Commission during the Civil War; died at his home in Bloomington, Ill., May 30, aged 70.

BENJAMIN E. STULTZ, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1888; a member of the American Medical Association; died at his home in Moweaqua, Ill., May 24, from nephritis, aged 56.

MARGARET ANDERSON, M.D., Chaddock School of Medicine, Quincy, Ill., 1888; of Quincy, Ill., the oldest practicing woman physician in Adama County; died at Blessing Hospital, Quincy, June 16, from cancer of the stomach, aged 60.

JOSEPH H. ALESHIRE, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1877; for thirty-two years a practitioner of Plainville, Ill.; a member of the Adams County Medical Society, died at his home June 24, from heart disease, aged 62.

ALBERT STEAD GREEN, M.D., Northwestern University Medical School, Chicago, 1878; a member of the American Medical Association; consulting physician to the Rockford (Ill.) Hospital; died at his home in that city, June 1, from heart disease following an attack of influenza, aged 58.

JAMES CARMICHAEL HUTCHINSON, M.D., College of Physicians and Surgeons New York City, 1866; a member of the American Medical Association; formerly president of the Rensselaer County (N. Y.) Medical Society; for twenty-three years attending physician to the Troy Hospital; died at the home of his daughter in Rockford, Ill., June 11, from cerebral hemorrhage, aged 65.

Book Notice

WEBSTER'S NEW INTERNATIONAL DICTIONARY.

In our advertising columns will be found the ad. of the old reliable Webster's Dictionary, which has just been newly rewritten and brought up to date. With its profuse illustrations and many definitions this dictionary becomes equal to many encyclopedias. It contains 2,700 pages, 6,000 illustrations and 400,000 words, phrases and definitions. It is undoubtedly the most complete and satisfactory dictionary of the English language printed.

William T. Harris, for many years superintendent of schools in St. Louis and United States Commissioner of Education for twenty-seven years, is responsible for this remarkable work. We commend it to our readers in the highest terms.

COMFORT VS LOOKS
IS YOUR BABY HAPPY IN HOT WEATHER?
If not—you're to blame.
THIS LITTLE TOT IS COMFORTABLE AND HAPPY WHEN THE SUMMER DAYS ARE HOT.
HE IS DRESSED RIGHT TO STAND THE HEAT.
THIS UNHAPPY LITTLE CODGER IS ALL FUSSED UP AND AS A RESULT HE IS HOT AND UNCOMFORTABLE.
HE IS DRESSED WRONG FOR HOT DAYS.
DON'T DRESS YOUR BABY TO MAKE A GOOD SHOW OF HIM—DRESS HIM TO KEEP HIM COMFORTABLE AND HAPPY.

Educational Poster, Series 1911. Department of Health, Chicago